

**Texas Land Application Permit  
Falcon Refinery Superfund Site  
Ingleside, San Patricio County, Texas 78362  
TXD 086 278 058**

**Prepared for:**

**National Oil Recovery Corporation  
3717 Browne Street  
Flushing, New York 11354**

**Prepared by:**



**TRC Environmental Corporation  
505 East Huntland Drive, Suite 250  
Austin, Texas**

**July 2011**



9533228

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**Christopher M. Mansuri, P.E.  
Staff Engineer**

## **LIST OF ACRONYMS AND ABBREVIATIONS**

AST	Aboveground Storage Tank
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethyl benzene, and Xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
COC	Chemical of Concern, or constituent of concern
GWBU	Groundwater-bearing Unit
HSP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operators and Emergency Response
mg/kg	Milligram per Kilogram
mg/L	Milligram per Liter
MTBE	Methyl tert-butyl ether
NPL	National Priorities List
PAHs	Polycyclic Aromatic Hydrocarbons
PCLs	Protective Concentration Levels
PID	Photo-ionization Detector
PPE	Personal Protective Equipment
RCI	Reactivity, Corrosivity, and Ignitability
RCRA	Resource Conservation and Recovery Act
ROW	Right-of-Way
SAR	Sodium adsorption ratio
SVOC	Semivolatile organic compound
TCEQ	Texas Commission on Environmental Quality
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TLAP	Texas Land Application Permit
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
US DOT	United States Department of Transportation
US EPA	United States Environmental Protection Agency
VOC	Volatile organic compound

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## 1.0 INTRODUCTION

The National Oil Recovery Corporation (NORCO) requests a permit to land apply, via irrigation, accumulated rain water that is stored in an aboveground storage tank (AST) that was formerly operated as part of the Falcon Refinery. This Permit Application proposes to treat the rain water via filtration prior to discharge by irrigation to onsite pastureland that is owned by NORCO and is located at the Falcon Refinery in Ingleside, San Patricio County, Texas 78362. The site is located approximately 1.7 miles southwest of State Highway 361 (SH 361) on Farm to Market 2725 (FM 2725), as shown in Figure 1, Area Map.

The format of this Texas Land Application Permit (TLAP) will follow the guidelines established by the Texas Commission on Environmental Quality (TCEQ), Industrial Wastewater Permits Section, who have provided NORCO an Abbreviated Technical Report format. Each of the required items is shown in italics and the responses are provided in regular text.

### 1.1 Operator Name, Address, Contact Information

National Oil Recovery Corporation  
3717 Browne Street, Flushing, New York 11354  
Applicant Representative: Mr. Richard F. Bergner  
Title: Attorney at Law  
Phone Number: (713) 783 - 4832

### 1.2 Facility/Site Information

#### a. *Describe the type of activity and general nature of your business.*

The Falcon Refinery (a.k.a. NORCO) Site consists of a refinery that operated intermittently and is currently inactive. When in operation the refinery had a capacity of 40,000 barrels (bbl) per day and the primary products consisted of naphtha, jet fuel, kerosene, diesel, and fuel oil.

#### b. *Describe the wastewater generating process.*

The wastewater is defined as rain water that accumulated inside aboveground storage tanks (ASTs) that were empty of fluids. The ASTs contained residual material and sludge leftover from former operations of the facility. The ASTs had historically been used to store petroleum hydrocarbon products. The wastewater contains minor concentrations of petroleum hydrocarbons due its contact with residues that were present in the ASTs.

#### f. *Is this a new permit application for an existing facility?*

Yes.

The Site (Figure 2, Site Map) has been owned, leased and/or operated under several different companies. The Oil and Gas Company of Texas, Inc. originally owned the Site. A deed search revealed that the facility was leased to UNI Refining, Inc., from the UNI International Corporation and the UNI Pipeline, Inc., for seven years, 1979-1986. UNI Refining Co. obtained an air permit in 1979, and commenced construction of the facility in April 1980. In March 1981, UNI Oil, Inc., the parent corporation of UNI Refining Company and UNI Pipeline Company, was sold to new owners operating under the name of Texas Independent Oil Corporation. In late 1983, to early 1984, the refinery was sold and operated under the name Mid Gulf Energy, Inc.

The Falcon Refining Company (FRC) purchased the Site from Texas Independent Refining facility in November 1985. In 1986, production at the refinery once again ceased, FRC declared bankruptcy and the facility came under the ownership of American Energy Leasing, Inc. In May 1990, Impexco of Texas, Inc. acquired the Site from American Energy Leasing, Inc.

NORCO gained title to the refinery in December 1990 from Impexco of Texas, Inc. In June 1991, NORCO acquired the dock facility from the Sun Operating Limited Partnership. In the mid-90s, MJP Resources, Inc. began leasing/operating the tanks on the northwest corner of the FM 2725 and Bishop Road and the dock facility. In 1998, Pi Energy Corporation acquired 2.5 acres of the dock facility from NORCO.

Currently, Superior Crude Gathering Inc. (Superior) is leasing several above-ground storage tanks (ASTs) at the refinery portion of the Site and the barge docking facility, for crude oil storage and transportation.

## 2.0 TREATMENT SYSTEM

- a. *List any physical, chemical and/or biological treatment process that you use for the treatment of wastewater at your facility. Include a description of each process starting with initial treatment and finishing with the discharge point.*

The wastewater will be filtered using granulated activated carbon (GAC) canisters piped in series to remove any hydrocarbon concentrations that remain in the wastewater. The treated effluent will be tested for breakthrough concentrations of the chemicals of concern (COCs) periodically at a sampling port located between two GAC canisters connected in series. When a breakthrough of COC concentrations is detected from the sampling port immediately downgradient of the first GAC canister, the discharge system will be shut off while the first canister is replaced. The second GAC canister in series is installed to provide backup filtration in case the first canister reaches breakthrough prior to the next periodic monitoring event.

The initial effluent sample that was collected on July 26, 2011, after all of the water from the various ASTs were consolidated into Tank 26. The laboratory analytical results for specific

conductance resulted in 19 millimhos per centimeter (mmhos/cm), which is equivalent to 19 miliSiemens per centimeter (mS/cm), total dissolved solids (TDS) of 11,000 mg/L, and a pH value reported above 12. These results appear to be inconsistent with analyses conducted on the individual tanks during earlier investigations. The site operator will implement pH neutralization in Tank 26 to the range between 6.0 and 9.0, prior to pump transfer through the filtration vessels. In addition, should the conductivity level continue to be at 19 mS/cm, a nanofiltration system or nanofiltration with reverse osmosis system will be brought on site to reduce the salinity to levels acceptable to the existing natural salinity conditions in the land application area.

The effluent will be temporarily stored in a frac tank after discharge through the various treatment units, pending the final laboratory analytical results to verify the suitability for irrigation. Once the results have confirmed that all effluent parameters are within the limits established by TCEQ for the TLAP, and TCEQ has granted approval for land application, then the treated effluent will be routed to the onsite irrigation field.

### **3.0 IMPOUNDMENTS**

*Discharge Point: If a discharge occurs from the impoundments, designate the outfall associated with the impoundment.*

Not Applicable. The discharge system will not use impoundments.

### **4.0 OUTFALL/DISPOSAL METHOD INFORMATION**

The disposal method that is proposed is irrigation of treated and filtered wastewater from an AST. Worksheets 3.0 and 3.1 and their attachments provide the details for the proposed irrigation system.

**OUTFALL: I-1**

Latitude		Longitude		Location Description				
<b>N 27.857503°</b>		<b>W -97.180054°</b>		The Disposal location is the 5.5316 acre irrigation area located southwest of Tank 26.				
Permitted Flow (MGD)		Proposed Flow (MGD)						
Dly Avg	Dly Max	Dly Avg	Dly Max	Discharge Duration				
		0.016667	0.025	6 (hrs./day)	20-30 (day/mo.)	4 (mo./year)		
<input checked="" type="checkbox"/> Pumped <input type="checkbox"/> Gravity		Measurement Device: <b>Totalizer</b>		<input type="checkbox"/> I <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous				
Contributing Wastestreams:				Volume (MGD)	% of Total Flow			
2,000,000 gallons of rainwater stored in Tank 26				0.016667	100.0			

## 5.0 STORMWATER MANAGEMENT

*Are there any existing or proposed outfalls which discharge storm water runoff commingled with other wastestreams?*

**No.**

*If yes, provide the following information. If no, proceed to Item No. 6.*

## 6.0 RADIOACTIVE MATERIALS

*Are radioactive materials mined, used, stored, or processed at this facility?*

There are no radioactive materials mined, used, stored or processed at this facility.

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## TCEQ INDUSTRIAL WASTEWATER PERMIT APPLICATION INDUSTRIAL ADMINISTRATIVE REPORT

**Submit this checklist with the application. Do not submit the instructions with the application. Indicate if the following are included in the application.**

Applicant National Oil Recovery Corporation

Permit Number \_\_\_\_\_

WORKSHEET	Y	N	WORKSHEET	Y	N
Administrative Report 1.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Worksheet 7.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Administrative Report 1.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Worksheet 8.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SPIF	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Worksheet 9.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Technical Report 1.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Worksheet 10.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Worksheet 1.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Original USGS Map	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 2.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Affected Landowners Map	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Landowner Disk or Labels	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Worksheet 3.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Copy of Application Fee Check	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Worksheet 3.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	All fees owed TCEQ are paid	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 3.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Flow Diagram	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Worksheet 4.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Site Drawing	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 4.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Original Photographs	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Worksheet 5.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Solids Management Plan	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Worksheet 6.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Water Balance	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please indicate by a check mark the amount submitted for the application fee:

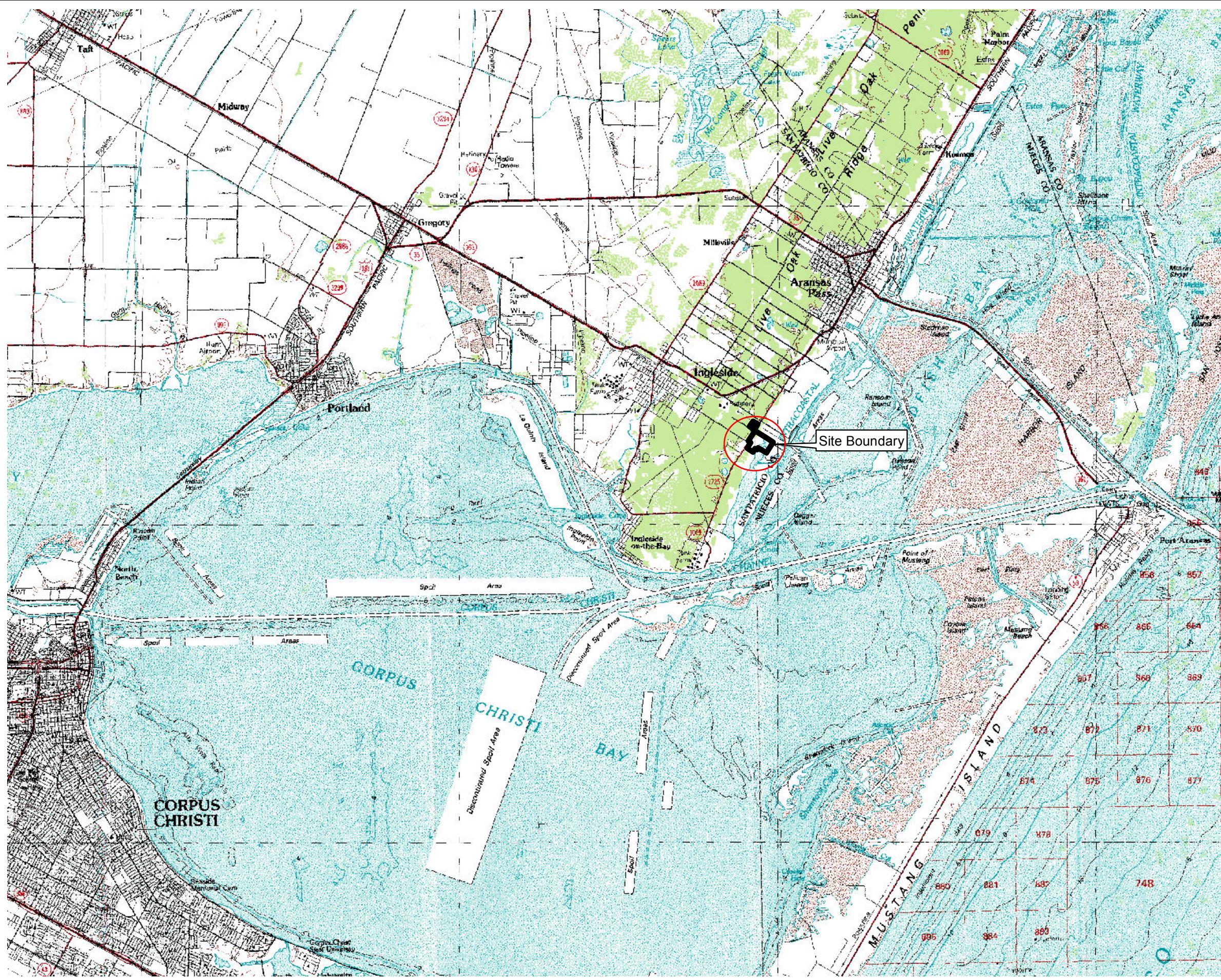
EPA Classification	New	Major Amend. (With or Without Renewal)	Renewal Only	Minor Amend. /Mod.
Minor facility not subject to categorical standards promulgated by the EPA (40 CFR Part 400-471)	_____ \$350	_____ \$350	_____ \$315	_____ \$150
Minor facility subject to categorical standards promulgated by the EPA (40 CFR Part 400-471)	_____ \$1,250	_____ \$1250	_____ \$1215	_____ \$150
Major facility	N/A *	_____ \$2,050	_____ \$2,015	_____ \$450

\* All facilities are designated as minors until formally classified as a major by EPA.

### For Commission Use Only:

Segment Number: \_\_\_\_\_ County: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Proposed/Current Permit Number: \_\_\_\_\_ Region: \_\_\_\_\_

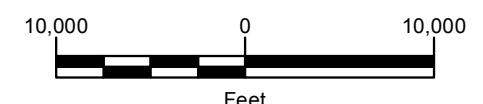


## Legend

- Site Boundary
- One-Mile Radius

Reference: U.S.G.S. 1:100,000-Scale Topographic Map, Driscoll, Texas (1980).

N



## AREA MAP

FALCON REFINERY  
INGLESIDE, SAN PATRICIO COUNTY, TEXAS

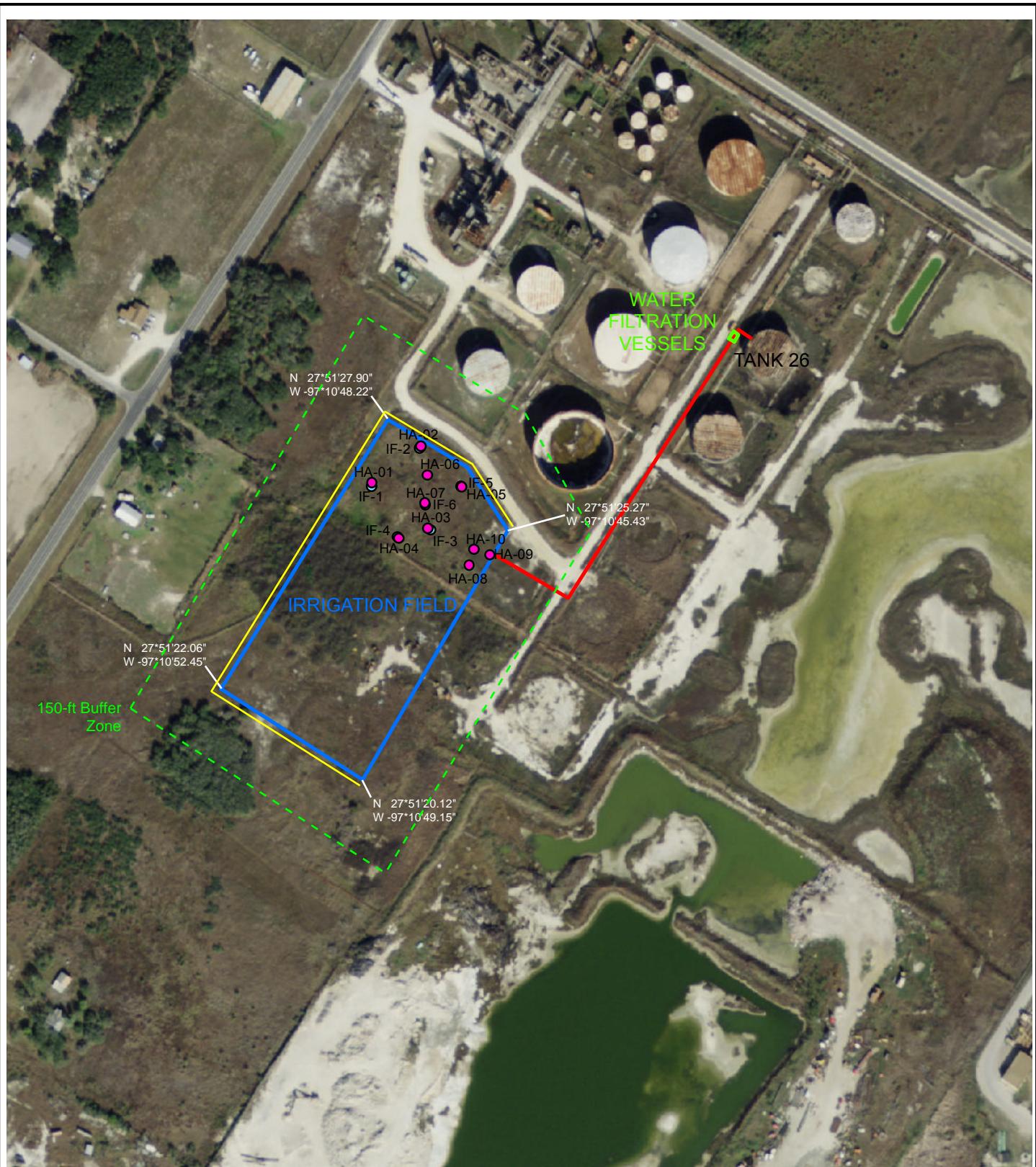
PROJECT NO.: 182978

DATE: 3/10/2011

TRC

505 EAST HUNTLAND DRIVE  
SUITE 250  
AUSTIN, TEXAS 78752  
512-329-6080

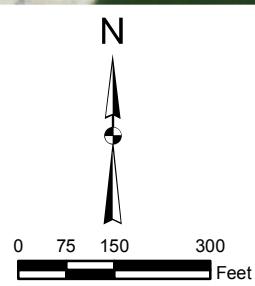
FIGURE  
1



#### LEGEND

- IRRIGATION FIELD
- PIPING
- WATER FILTRATION VESSELS
- SOIL SAMPLING LOCATIONS
- INFILTRATION TEST LOCATIONS
- STORMWATER RUNON CONTROLS

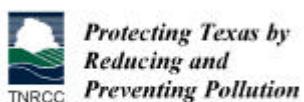
SOURCE: NATIONAL AGRICULTURE IMAGERY  
PROGRAM (NAIP) 2009.



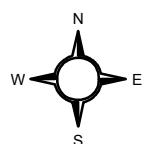
SITE MAP	
FALCON REFINERY INGELSIDE, TEXAS	
PROJECT NO.: 182978	DATE: 8/02/2011
505 EAST HUNTLAND DRIVE SUITE 250 AUSTIN, TEXAS 78752 512-329-6080	FIGURE 2



**Figure 2A**  
**Adjacent Properties Map**  
**Falcon Refinery aka National Oil Recovery Corporation**  
**Ingleside, San Patricio County, Texas**  
**TXD 086 278 058**



0.2      0      0.2      0.4 Miles



#### Legend

1. Falcon Refinery Site and Dock Facility

Approximate Boundary

2. Aker Gulf Marine - Aransas Pass Yard

3. Offshore Specialty Fabricators  
 (Former Location of Gulf Conservation Corp.)

4. Alamo Concrete Products

5. IBC Petroleum, Inc.

6. Pi Energy Corporation

7. Garrett Construction Company

8. Plains Marketing

9. Brown & Root, Inc.

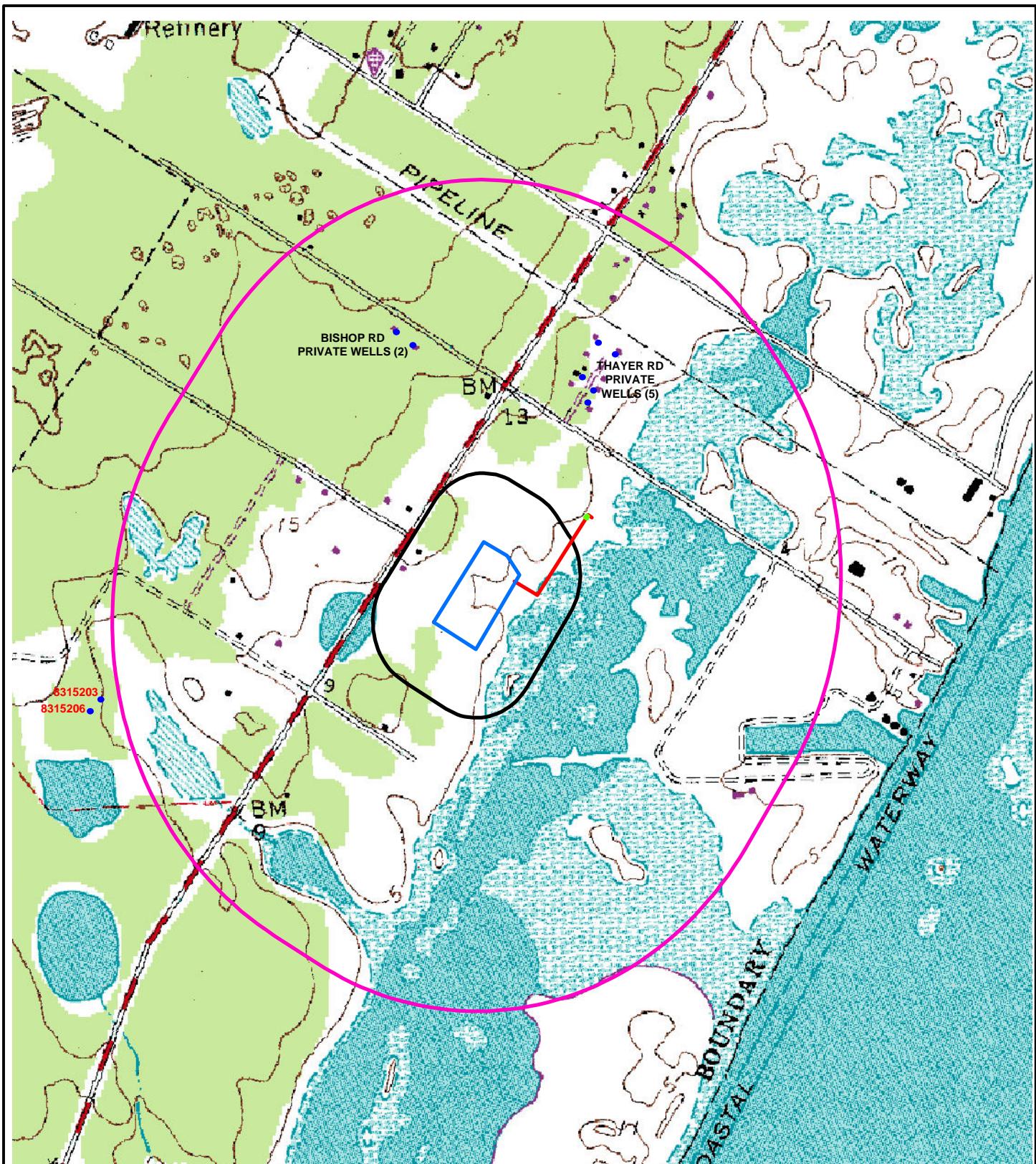
10. Ingleside Properties, Inc.

#### Source

The base data used is the Port Ingleside NE Digital Orthoquarter Quad (DOQQ), which is a digital version of an aerial photograph. This DOQQ was produced by the TNRCC using USGS guidelines. UTM NAD83 Zone 14

SURROUNDING INDUSTRY  
MAP  
Ingleside, Texas





### USGS TOPOGRAPHIC MAP

FALCON REFINERY  
INGELSIDE, TEXAS

PROJECT NO.: 182978

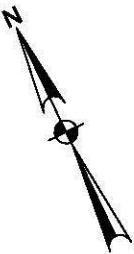
DATE: 8/02/2011



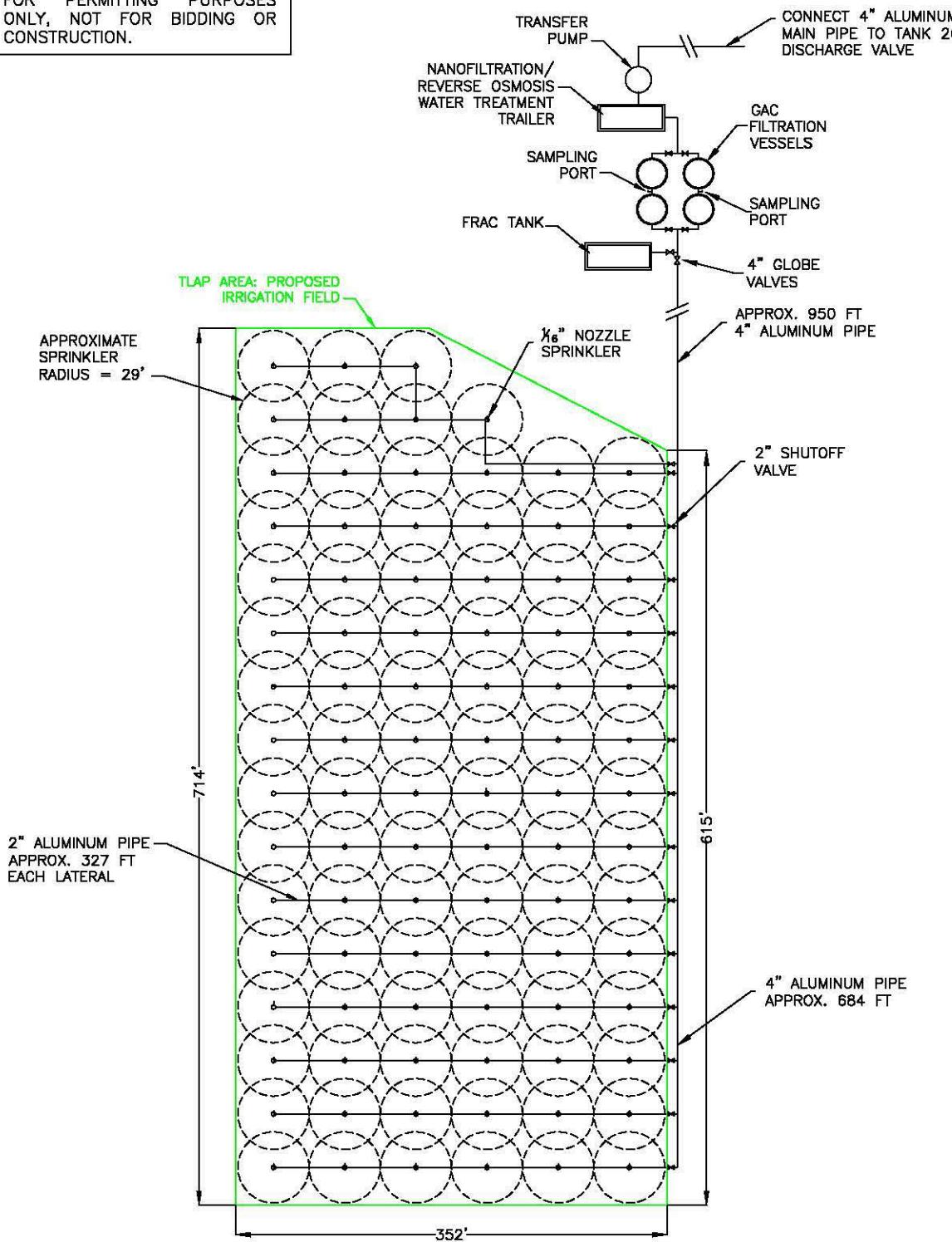
505 EAST HUNTLAND DRIVE  
SUITE 250  
AUSTIN, TEXAS 78752  
512-329-6080

FIGURE

3



THIS DRAWING IS INTENDED  
FOR PERMITTING PURPOSES  
ONLY, NOT FOR BIDDING OR  
CONSTRUCTION.



#### LEGEND

- [Green Box] PROPOSED IRRIGATION AREA
- [Crossed-out circle] 2" / 4" SHUTOFF VALVE
- [Circle with dot] SPRINKLER HEAD

#### NOTES

GAC = Granulated Activated Carbon.  
The final dimensions and layout may vary  
from this conceptual design to accommodate  
field conditions. This drawing is not to scale.

#### WATER TREATMENT AND IRRIGATION SYSTEM

TEXAS LAND APPLICATION PERMIT (TLAP)  
FALCON REFINERY  
INGLESIDE, SAN PATRICIO COUNTY, TEXAS 78362

PROJECT NO.	182978	DWG FILE	182978-6-4.DWG
DRAWN BY.	CM	DATE	07/29/2011
TRC			FIGURE 505 EAST HUNTLAND DRIVE SUITE 250 AUSTIN, TEXAS 78752 (512) 329-6080

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## **Attachment 1**

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### **References**

## **REFERENCES**

Gupta, Ram S., 2001. *Hydrology and Hydraulic Systems*, Second Edition. Waveland Press, Inc., Prospect Heights, Illinois.

Kleinfelder, 2007. *Remedial Investigation / Feasibility Study (RI/FS) Work Plan*, Falcon Refinery Superfund Site, Ingleside, San Patricio County, Texas TXD 086 278 058. Austin, Texas.

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[<http://lwf.ncdc.noaa.gov/oa/climate/online/ccd/avgrh.html>]

National Climactic Data Center (NCDC), 2011. *Texas Climate – Corpus Christi*, U.S. Department of Commerce, Asheville, North Carolina.  
[<http://web2.airmail.net/danb1/climate.htm#Corpus%20Christi>]

Smajstria, A. G., Zazueta, F.S. (Smajstria/Zazueta), 2003. *Evaporation Loss During Sprinkler Irrigation*, The Institute of Food and Agricultural Sciences (IFAS) Extension, The University of Florida, Gainesville, Florida. Reviewed June 2003.

30 Texas Administrative Code (TAC) Chapter 309.20 Subchapter C.

Texas Commission on Environmental Quality (TCEQ), (No Date). *Completing the Industrial Wastewater Permit Application, 10411\_10055ins Instructions for Completing the Industrial Wastewater Permit Application*. Wastewater Permitting Section, Austin, Texas.

Texas Water Development Board (TWDB), 2011. *Evaporation and Precipitation Data for Texas*. Accessed July 18, 2011. [<http://midgewater.twdb.state.tx.us/Evaporation/evap.html>]

Texas Water Resources Institute, Irrigation Technology Center, Texas A&M University (TAM-IRT), 2011. *Sinton Weather Station Evapotranspiration Data*. [<http://texaset.tamu.edu>]

U.S. Environmental Protection Agency (EPA), 2010. *Land Treatment Systems, Onsite Wastewater Treatment Systems Technology Fact Sheet 12*, EPA 625/R-00/008.

**WORKSHEETS  
TO THE INDUSTRIAL WASTEWATER PERMIT APPLICATION TECHNICAL REPORT**

Please review the worksheet requirements in the instructions and indicate by checking either yes or no which worksheets are required, completed, and submitted with the technical report. Worksheets that are not applicable do not need to be submitted with the technical report.

WORKSHEET	COMPLETED AND SUBMITTED WITH THE TECHNICAL REPORT:	
	YES	NO
1.0: EPA EFFLUENT CATEGORICAL GUIDELINES	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.0: POLLUTANT ANALYSES REQUIREMENTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0: LAND DISPOSAL OF EFFLUENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.1: SURFACE LAND DISPOSAL OF EFFLUENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.2: SUBSURFACE LAND DISPOSAL OF EFFLUENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.3: SUBSURFACE AREA DRIP DISPERSAL SYSTEM LAND DISPOSAL OF EFFLUENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.0: RECEIVING WATERS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.1: STREAM PHYSICAL CHARACTERISTICS WORKSHEET	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.0: SEWAGE SLUDGE MANAGEMENT AND DISPOSAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6.0: INDUSTRIAL WASTE CONTRIBUTION	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7.0: STORM WATER RUNOFF	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.0: AQUACULTURE	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.0: CLASS V INJECTION WELL	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10.0: QUARRIES IN THE JOHN GRAVES SCENIC RIVERWAY	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**WORKSHEET 3.0**  
**LAND DISPOSAL OF EFFLUENT**

**REQUIRED FOR A POLLUTION NEWAL, A MENDMENT, AND NEW APPLICATIONS FOR A PERMIT TO DISPOSE OF WASTEWATER BY LAND DISPOSAL.**

**1. TYPE OF DISPOSAL SYSTEM** (Instructions, Page 60)

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Irrigation            | <input type="checkbox"/> Subsurface Application         |
| <input type="checkbox"/> Evaporation                      | <input type="checkbox"/> Subsurface soils absorption    |
| <input type="checkbox"/> Evapotranspiration beds          | <input checked="" type="checkbox"/> Surface Application |
| <input type="checkbox"/> Other (describe below in detail) | <input type="checkbox"/> Drip irrigation system         |

**2. LAND APPLICATION AREA:** (Instructions, Page 60)

Effluent Application in GPD	Irrigation Acreage in Acres	Describe land use & indicate type(s) of crop(s)	Public Access Y/N
16,667	5.5316	Pasture land, native vegetation, no crops.	N

**3. ANNUAL CROPPING PLAN:** (Instructions, Page 60)

Provide the required cropping plan. Indicate by a check mark that each of the following is provided.

- |  |   |
|--|---|
| <input type="checkbox"/> Cool and warm season plant species                                | <input type="checkbox"/> Nitrogen loading requirements per crop.            |
| <input type="checkbox"/> Crop growing season   | <input type="checkbox"/> Additional fertilizer requirements                 |
| <input type="checkbox"/> Harvesting method/number of harvests                              | <input type="checkbox"/> Supplemental watering requirements                 |
| <input type="checkbox"/> Minimum/maximum harvest height                                    | <input type="checkbox"/> Crop salt tolerances                               |
| <input type="checkbox"/> Crop yield goals  | <input checked="" type="checkbox"/> Justification for not removing existing |
| <input type="checkbox"/> Break down of acreage and percent of total acreage for each crop. | vegetation to be irrigated.   |

**4. STORM WATER MANAGEMENT** (Instructions, Pages 61)

a. Is storm water runoff a component of the effluent disposed of via land application?

- Yes     No

b. If yes, provide the following information:

Disposal Area	Area Contributing Runoff (acres)	Primary Soil Type	Cover Type (i.e. pasture, row crop land, concrete slab, etc.)

- c. If no, provide a description of tailwater controls and storm water runoff controls used for the disposal area.

There is a drainage ditch along the west and south sides of the land area designated for irrigation. Along the north and east sides, surface grading will be applied to provide enough stormwater runoff control to prevent runoff from other areas to enter the irrigation area.

## 5. WELL AND MAP INFORMATION (Instructions, Page 61)

Indicate by a check mark that the following information is shown and labeled on the USGS map:

- The boundaries of the land application site(s)
- On-site buildings
- Waste disposal or treatment facilities
- All water wells within 1/2 mile radius of the disposal site or property boundaries
- All springs and seeps onsite and within 500 feet of the property
- All surface waters in the state onsite and within 500 feet of the property
- Effluent storage and tailwater control facilities
- Buffer zones

List and cross reference all water wells shown on the USGS map in the following table. Attach additional pages as necessary to include all of the wells.

Well ID	Well Use	Producing?	Open, cased, capped, or plugged?	Proposed Best Management Practice
8315203	Dom, Stock	Historical	Iron Casing to 50 ft	Annual monitoring, gauging.
8315206	Stock	Historical	Iron casing to 51 ft	Annual monitoring, gauging.
(b) (6)	Not Used	No	Unknown	Annual monitoring, gauging.
	Dom	Yes	Unknown	Annual monitoring, gauging.
	Not Used	No	Unknown	Annual monitoring, gauging.
	Irrigation	Yes	Unknown	Annual monitoring, gauging.

Do you plan to install groundwater monitoring wells or lysimeters around the land application site?

- Yes     No. If yes, then provide the proposed location of the monitoring wells or lysimeters on a site map.

## 6. SOIL MAP AND SOIL INFORMATION (Instructions, Pages 62)

Indicate by a check mark that the following information was provided:

- USDA Soil Survey map that indicates the area to be used for effluent disposal with the locations identified by fields and crops.
- Break down of acreage and percent of total acreage for each soil type.
- Copies of laboratory soil analyses.

## **7. EFFLUENT MONITORING DATA (Instructions, Page 62)**

Provide a discussion of all persistent excursions to permitted parameters and corrective actions taken.

Not Applicable.

## 8. POLLUTANT ANALYSIS:

Complete the table required for all permits or applications for the authorization of land application of effluent. (Instructions, Page 63)

Site No.: Tank 26	<input type="checkbox"/> C <input checked="" type="checkbox"/> G	Effluent Concentration (mg/l)			
Pollutants	Samp. 1	Samp. 2	Samp. 3	Samp. 4	Average
BOD (5-day)	250				250
CBOD (5-day)	250				250
Chemical Oxygen Demand	1,300				1,300
Total Organic Carbon	500				500
Ammonia Nitrogen	7.8				7.8
Total Suspended Solids	69				69
Nitrate Nitrogen	< 2.6				< 2.6
Total Organic Nitrogen	8.2				8.2
Total Phosphorus	2.3 *				2.3 *
Oil and Grease	50				50
Total Residual Chlorine	< 0.077				< 0.077
Total Dissolved Solids	11,000				11,000
Sulfate	49				49
Chloride	3,300				3,300
Fluoride	1.0				1.0
Fecal Coliform	< 40 **				< 40 **
Specific Conductance (mmhos/cm)	19.000				19.000
pH (Standard Units; min/max)	> 12				> 12
Soluble Sodium	4,200				4,200
Soluble Calcium	7.8				7.8
Soluble Magnesium	1.0				1.0
SAR	370				370

### Notes:

\* Units for phosphorus reported in mg/Kg.

\*\* Units for fecal coliform bacteria are in CFU/100 mL.

### Notes on Specific Conductance and pH:

Prior to irrigation, the treatment system will neutralize the pH to a level between 6.0 to 9.0, and will reduce the specific conductance (and TDS) to levels below 8.0 mmhos/cm (mS/cm).

The treated effluent will be tested prior to irrigation to confirm that the parameters are suitable for the land application.

Pollutants	Samp. 1	Samp. 2	Samp. 3	Samp. 4	Average	MAL (µg/l)
	Effluent Concentration (µg/l)					
Total Aluminum	NT					30
Total Antimony	NT					60
Total Arsenic	< 0.0035					10
Total Barium	0.75					10
Total Beryllium	NT					5
Total Boron	NT					20
Total Cadmium	0.00043J					1
Total Chromium	0.0030J					10
Trivalent Chromium	NT					N/A
Hexavalent Chromium	NT					10
Total Copper	NT					10
Cyanide	NT					20
Total Lead	0.022					5
Total Mercury	<0.00013					0.2
Total Nickel	NT					10
Total Selenium	< 0.0042					10
Total Silver	< 0.0010					2.0
Total Thallium	NT					10
Total Zinc	NT					5

Notes:

J Result is less than the laboratory reporting limit, but greater than or equal to the method detection limit (MDL), and the concentration is an estimated value.

NT Not tested for this analyte.

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## **Attachment 3-A**

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### **Weather Data Documentation**

## PRECIPITATION DATA

# Texas Water Development Board

# Mon Jul 18 11:33:45 CDT 2011

# Monthly precipitation in inches, annual total precipitation in inches

#QUAD	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1010	1940	0.63	0.63	1.57	0.11	2.84	4.19	3.05	0.93	2.68	3.02	1.36	3	24.01
1010	1941	1.97	4.4	2.8	6.1	9.29	4.28	1.74	0.57	2.82	3.95	0.59	3.21	41.74
1010	1942	0.84	3.27	0.7	0.48	2.01	2.7	9.01	4.71	2.31	2.26	1.19	0.22	29.7
1010	1943	3.94	2.14	1.56	0.25	3.9	0.57	0.9	0.24	7.8	1.22	2.68	3.11	28.31
1010	1944	1.79	0.36	2.26	0.42	4.52	0.91	0.71	5.3	4.86	0.59	1.24	1.96	24.92
1010	1945	1.19	2.01	2.54	4.31	1.18	1.84	1.63	4.68	1.63	3.11	0.19	1.06	25.35
1010	1946	3.17	1.19	1.06	2.63	3.55	4.17	1.48	3.36	6.58	5.31	0.8	0.74	34.02
1010	1947	1.66	0.07	1.13	2.61	5.95	1.57	1	6.74	1.4	0.64	4.86	1.85	29.47
1010	1948	0.86	2.3	1.99	0.97	2.27	2.91	0.97	3.19	7.25	2.06	0.77	0.44	25.97
1010	1949	1.55	2.66	1.39	5.18	1.02	1.62	4.16	1.46	3.79	7.19	0.02	1.51	31.57
1010	1950	0.86	1.33	0.83	1.49	5.01	1.82	1.15	0.54	2.2	0.07	0.41	0.01	15.72
1010	1951	0.3	0.55	2.99	0.75	1.76	2.51	0.36	0.57	11.86	1.43	1.13	0.2	24.4
1010	1952	0.16	0.43	0.51	1.58	3.28	1.1	2.49	0.16	3.6	0	2.65	0.68	16.63
1010	1953	0.32	1.35	0.23	0.52	1.2	0.15	1.11	12.48	1.08	4.2	0.41	1.34	24.4
1010	1954	0.41	0.05	0.66	3.93	1.51	2.95	0.54	1.13	2.79	4.22	0.51	0.2	18.9
1010	1955	1.03	0.95	0.1	0.13	1.09	0.5	1.24	1.89	12.67	1.92	2	0.68	24.19
1010	1956	0.46	0.7	0.44	5.61	2.64	0.99	0.49	1.77	0.79	2.79	0.48	0.51	17.68
1010	1957	0.19	3.5	2.54	2.59	4.62	4.12	0.06	1.29	3.85	1.29	3.89	0.45	28.38
1010	1958	11.13	5.33	0.96	0.29	1.69	1.58	1.71	0.76	10.1	7.73	1.04	2.25	44.57
1010	1959	0.97	4.28	0.09	1.81	2.62	4.85	0.98	5.26	1.52	4.42	1.21	1.45	29.45
1010	1960	1.38	1.48	1.16	2.31	1.58	3.69	0.77	5.29	2.98	11.56	2.57	6.99	41.77
1010	1961	1.47	2.16	0	2.11	0.22	4.3	3.2	2.03	5.59	0.29	1.47	0.6	23.45
1010	1962	0.62	0.04	0.92	1.47	0.56	4.97	0.11	0.73	2.71	1.13	1.26	3.1	17.61
1010	1963	0.24	1.4	0.06	0.46	1.52	2.77	1.21	1.09	3.34	2.6	1.72	1.08	17.49
1010	1964	1.2	1.79	0.56	0.37	3.42	0.73	2.87	0.25	5.19	0.5	0.45	2.16	19.48
1010	1965	1.01	3.09	0.81	0.58	4.55	2.24	0.53	2.66	4.54	3.29	1.86	3.62	28.78
1010	1966	2.56	1.38	0.48	3.45	9.14	3.65	1.09	1.94	2.58	1.69	0.09	0.32	28.38
1010	1967	2.55	1.83	0.13	0.18	2.4	0.66	0.83	6	21.31	3.37	0.58	1.39	41.24
1010	1968	2.9	2.65	0.96	1.37	6.62	7.69	3.99	1.44	5.28	3.14	0.77	0.41	37.21
1010	1969	0.6	3.21	0.8	1.97	3.2	0.41	0.39	2.86	3.17	3.4	4.81	1.08	25.91
1010	1970	2.38	0.98	1.45	0.47	5.87	2.63	1.52	4.27	6.92	3.38	0.55	0.21	30.63
1010	1971	0.07	0.26	0	2.09	2.56	1.66	0.42	10.54	13.22	4.12	0.77	3.22	38.93
1010	1972	1.26	3.45	1.24	2.51	4.73	5.27	3.4	2.58	4.83	0.5	2.61	0.23	32.63
1010	1973	2.57	1.9	0.18	1.65	0.71	11.09	0.82	4.88	7.82	10.46	0.49	0.09	42.65
1010	1974	1.69	0.1	3.76	0.28	3.44	3.09	0.67	1.75	4.68	2.58	2.45	0.94	25.43
1010	1975	2.58	0.56	0.16	0.25	6.38	2.32	3.36	6.23	5.75	2.12	1.1	1.15	31.95
1010	1976	0.65	0	0.52	6.78	4.32	1.37	8.99	1.45	3.83	7.76	4.15	2.41	42.23
1010	1977	2.42	1.51	0.64	3.69	1.86	3.56	0.42	0.81	2.15	3.23	2.21	0.05	22.55
1010	1978	1.92	1.3	0.03	1.97	0.8	5.9	2.29	1.69	9.92	2.65	1.68	2.22	32.39
1010	1979	2.94	0.75	1.44	5.37	2.68	4.47	3.77	2.59	9.05	0.14	0.47	1.08	34.76
1010	1980	0.97	1.09	0.46	0.07	3.66	0.05	1.11	12.56	4.19	0.83	3.32	0.24	28.56
1010	1981	2.13	1.6	1.92	1.65	7.16	6.48	3.08	5.03	1.19	6.56	0.69	0.76	38.26
1010	1982	0.05	6.37	0.3	1.22	3.87	1.4	0.52	3.04	0.54	1.95	2.24	1.75	23.24
1010	1983	0.65	4.28	1.2	0.16	2.27	4.61	6.69	2.19	5.9	2.85	2.36	0.83	33.99
1010	1984	3.83	0.53	0.2	0	2.21	1.11	1.89	1.18	2.64	4.72	1.19	2.72	22.22
1010	1985	2.66	2.29	1.93	2.49	3.61	4.08	0.9	1.7	7.75	6.14	2.46	1.32	37.33
1010	1986	1.46	1.53	0.56	1.27	4.55	3.68	0.28	3.03	1.83	5.73	2.32	4.19	30.43
1010	1987	1.55	4.46	0.85	0.89	4.59	6.65	2.91	1.17	1.76	2.82	2.3	1.25	31.19
1010	1988	1.11	2.05	1.77	0.89	0.94	1.45	2.97	3.12	6.37	2.06	0.77	0.66	24.17
1010	1989	1.83	0.59	0.52	2.64	0.68	3.04	2.9	1.98	3.14	0.42	1.54	1.21	20.49
1010	1990	0.84	3.54	4.17	2.62	2.14	0.55	2.03	0.83	3.34	2.14	1.26	0.73	24.17
1010	1991	1.85	1.93	1.59	3.24	4.98	6.49	1.29	1.29	7.21	3.67	0.34	5.03	38.91
1010	1992	4.86	4.53	3.17	3.69	7.2	3.37	0.75	2.06	2.92	1.31	2.59	1.22	37.66
1010	1993	1.16	3.59	4.17	3.07	7.64	8.87	0.14	1.17	1.43	2.95	0.8	3.79	38.8
1010	1994	0.9	0.66	3.91	2.08	1.95	3.21	1.03	1.27	3.62	5.51	0.15	4.04	28.33
1010	1995	2.7	2.88	4.21	0.63	1.75	2.5	0.91	5.91	5.16	6.52	4.12	0.92	38.21
1010	1996	0.01	0.09	0.29	1.24	0.63	2.37	0.1	5.64	3.97	9.82	2.41	2.49	29.06
1010	1997	1.2	1.47	3.75	4.78	5.54	2.24	0.04	0.77	4.41	15.36	2.5	0.18	42.24
1010	1998	1	3.69	2.11	0.33	0	0.17	0.58	2.58	7.97	7.89	2.82	0.63	29.77
1010	1999	0.37	0.64	2.54	0.45	2.54	3.71	3.43	9.99	5.42	1.54	0.46	0.29	31.4
1010	2000	1.17	0.89	3.49	0.45	3.24	1.69	0.05	1.33	0.82	2.12	4.09	0.94	20.28
1010	2001	1.12	0.96	2.85	0.34	1.99	1.56	2.04	5.31	3.74	1.51	6.13	1.64	29.19
1010	2002	0.11	0.54	0.21	0.23	1.27	1.73	2.37	0.88	6.28	5.66	2.31	2.76	24.34
1010	2003	1.92	1.86	1.83	0.24	0.06	2.64	4.32	1.96	12.35	4.61	1.73	0.68	34.2
1010	2004	1.91	2.16	2.46	6.39	6.07	4.95	1.02	2.97	5.42	2.28	3.93	0.52	40.08
1010	2005	1.15	3.05	2.05	0.37	2.34	0.88	2.73	0.66	4.77	2.94	2.32	0.93	24.19
1010	2006	0.62	0.22	0.84	0.13	2.64	5.12	6.89	0.67	8.77	3.45	0.1	3.25	32.7
1010	2007	5.26	0.12	2.11	1.75	3.9	2.43	13.22	3.82	3.9	1.57	0.86	0.36	39.3
1010	2008	2.36	0.29	0.86	1.96	1.06	0.57	7.76	4.65	2.12	1.17	0.53	0.41	23.74
1010	2009	0.16	0.12	0.68	0.14	1.3	0.27	0.22	0.46	7.09	3	3.17	3.76	20.38
1010	2010	3.53	3.73	0.75	2.74	1.68	3.53	6.62	0.45	12.84	0.01	0.69	0.35	36.91

## MONTHLY EVAPORATION DATA

# Texas Water Development Board

# Wed Jul 20 19:43:29 CDT 2011

# Monthly lake surface evaporation in inches, annual total evaporation in inches

#QUAD	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1010	1954	1.94	3.84	5.02	4.92	6.31	6.79	8.35	7.17	5.34	4.37	3.6	3.58	61.22
1010	1955	2.64	3.15	5.57	5.8	6.17	7.47	6.59	6.39	3.63	4.9	3.14	2.41	57.87
1010	1956	2.96	3.05	4.59	5.43	7.18	7.22	8.48	8.28	6	5.92	4.03	3.3	66.44
1010	1957	2.84	2.95	4.82	4.51	4.91	5.62	8.61	7.81	6.24	4.81	3.06	2.82	58.98
1010	1958	2.19	2.66	2.95	5.57	4.8	6.52	8.22	8.67	4.32	2.76	2.48	1.8	52.92
1010	1959	1.75	1.98	3.5	4.1	6.67	6.71	7.89	7.83	5.67	4.94	2.74	2.68	56.46
1010	1960	2.09	2.82	3.08	4.93	6.27	7.61	8.75	6.71	4.58	3.87	3.09	1.78	55.58
1010	1961	1.81	2.78	5.4	4.8	8.21	7.78	8.95	6.36	5.08	4.57	2.76	2.61	61.1
1010	1962	2.55	3.46	4.84	5.06	6.17	6.64	8.78	7.78	6.25	6.14	3.87	2.23	63.77
1010	1963	2.3	3.56	4.68	6.29	6.12	7.09	7.86	8.04	6.14	5.13	3.95	2.28	63.44
1010	1964	2.5	3.04	4.65	5.29	5.47	6.63	7.78	8.36	5.9	5.31	4.09	2.94	61.96
1010	1965	3.3	2.74	4.45	5.56	5.71	7.28	8.22	7.11	6.89	4.84	3.18	2.3	61.58
1010	1966	2	2.18	4.14	4.62	4.58	5.88	6.99	7.19	6.48	4.82	4.11	3.31	56.3
1010	1967	2.76	3.35	4.7	6.46	6.62	7.66	8.93	6.29	4.43	4.48	2.56	2.41	60.66
1010	1968	0.56	2.62	4.26	4.44	5.19	6.15	6.59	7.39	5.64	4.83	3.52	3.18	54.37
1010	1969	2.8	2.28	4.03	5	5.04	6.71	8.37	6.42	4.94	4.82	3.52	2.63	56.55
1010	1970	1.93	3.14	4.09	5.09	5.1	5.7	6.85	6.61	5.02	4.75	4.39	2.87	55.54
1010	1971	3.28	4.03	5.36	5.1	6.35	7.73	8.26	6.9	5.16	4.47	3.38	2.52	62.53
1010	1972	2.73	3.17	5.75	5.82	4.99	6.2	7.21	7.02	5.88	4.84	2.9	2.69	59.2
1010	1973	3.38	2.76	4.63	4.44	5.97	6.08	7.45	5.39	5.35	4.16	3.8	3.44	56.84
1010	1974	1.64	3.5	4.52	5.49	5.68	7.6	7.61	7.46	6.38	5.05	3.32	2.1	60.35
1010	1975	2.32	2.29	3.64	4.83	5.39	6.7	7.28	6.36	5.05	5.6	4.47	3.45	57.38
1010	1976	2.96	3.75	4.17	5.01	5.93	6.72	5.84	6.45	5.42	4.03	2.46	2.24	54.99
1010	1977	1.81	3.39	4.66	5.31	4.52	6.08	7.82	7.93	6.63	4.8	3.45	3.42	59.8
1010	1978	1.99	2.43	5.12	5.66	6.18	6.82	8.52	7.06	4.63	4.39	3.01	2.76	58.57
1010	1979	2.73	2.21	4.66	4.52	5.02	6.66	6.66	7.22	5.87	5.86	4.01	2.64	58.06
1010	1980	2.52	2.92	4.86	6.05	5.69	8.59	9.36	7.58	5.95	4.63	3.7	2.29	64.14
1010	1981	2.43	2.7	4.12	4.68	5.28	5.85	6.75	6.67	6.12	4.92	3.4	3.08	56
1010	1982	3.31	2.7	3.56	3.98	4.69	6.25	8.79	8	6.81	5.45	3.39	3.18	60.1
1010	1983	2.4	3.1	5.2	6.41	4.91	7.08	6.6	6.36	6.16	5.27	4.17	2.36	60.02
1010	1984	2.63	3.76	5.58	6.99	6.69	7.57	8.18	7.81	6.3	4.31	3.88	3.41	67.11
1010	1985	2.83	2.68	3.7	4.91	5.69	6.03	7.09	8.72	6.83	5.39	3.12	2.28	59.25
1010	1986	2.99	3.48	5.76	5.48	5.42	5.97	9.27	7.62	6.61	5.23	2.9	2.32	63.05
1010	1987	2.37	3.01	4.08	5.74	5.11	5.2	6.75	7.83	6.63	6.09	3.32	2.48	58.62
1010	1988	2.69	2.57	4.6	5.98	5.73	7.36	8.13	7.34	5.99	5.41	4.2	3.45	63.44
1010	1989	2.23	2.75	4.99	5.32	6.89	7.81	8.46	8.01	6.96	6.11	3.9	2.7	70.26
1010	1990	2.85	3.19	3.82	4.04	4.94	8.22	6.54	6.86	5.3	5.43	3.13	2.78	60.23
1010	1991	2.53	2.53	4.71	3.76	5.86	8.64	7.49	11.62	6.37	8.17	5.32	5.9	72.91
1010	1992	2.62	4.01	4.76	4.88	9.84	8.28	7.04	7.26	6.84	5.64	3.96	2.96	68.09
1010	1993	3.61	3.3	3.44	4.99	5.57	6.76	9.47	12.2	9.26	7.72	3.93	6.46	76.72
1010	1994	2.49	2.95	4.41	5.08	5.71	6.76	7.7	7.32	5.76	5	3.45	2.82	59.45
1010	1995	2.7	2.88	4.05	5.18	5.91	6.98	8.22	6.44	5.68	5.91	3.27	2.22	59.42
1010	1996	3.67	3.79	4.31	5.9	6.87	7.45	8.47	7.22	5.62	4.57	4.1	2.56	64.51
1010	1997	2.19	2.24	3.57	3.86	5.05	5.87	7.22	7.36	6.39	4.64	2.86	2.67	53.93
1010	1998	3.09	3.63	5.12	5.8	5.45	7.28	8.07	6.95	5.23	4.69	2.8	2.72	60.82
1010	1999	2.49	2.95	4.41	5.08	5.71	6.76	7.7	7.32	5.76	5	3.45	2.82	59.61
1010	2000	3.53	3.65	6.17	5.59	6.83	7.06	7.83	7.16	7.5	5.32	3.9	2.02	66.56
1010	2001	2.15	2.62	3.58	5.66	6.17	6.58	6.75	5.97	5.24	4.78	3.09	2.7	55.29
1010	2002	2.65	3.19	3.8	4.91	6.22	6.5	5.71	6.74	4.89	4.02	2.86	2.61	54.11
1010	2003	2.39	2.56	3.01	3.82	5.27	5.85	5.53	6.24	4.81	4.09	3.68	3.44	50.69
1010	2004	2.46	2.73	3.39	4.44	5.09	5.43	6.33	6.55	5.27	4.76	3.7	2.92	53.05
1010	2005	2.54	2.26	3.88	5.28	5.22	6.54	6.46	6.77	5.63	5.37	4.35	2.69	57
1010	2006	3.27	3.44	4.48	5.1	5.63	5.99	6.07	7.02	5.31	4.26	4.01	2.62	57.21
1010	2007	1.77	2.29	3.62	3.79	5.29	6.04	5.3	5.26	5.22	5.39	3.61	3.27	50.85
1010	2008	2.66	3.57	4.89	5.12	5.49	7.26	6.21	5.3	5.27	5.04	3.66	2.92	57.41
1010	2009	2.99	3.35	4.29	5.99	6.26	7.17	7.24	7.57	6.48	5.13	5.22	1.69	63.38
1010	2010	2.21	2.08	3.98	4.15	5.39	6.28	5.02	6.54	5.28	5.53	3.80	3.30	53.55

## MONTHLY EVAPORATION AND PRECIPITATION STATISTICS

\*\*\*\*\* Quadrangle: 1010 \*\*\*\*\*

\*\*\*\*\* Data Units: Inches \*\*\*\*\*

\*\*\*\*\* Monthly Evap \*\*\*\*\*

\*\*\*\*\* Statistics \*\*\*\*\*

n	Min	Max	Median	Mean	10%ile	90%ile
684	0.56	12.20	5.01	4.97	2.62	7.45

Month	n	Min	Max	Median	Mean	10%ile	90%ile
Jan	57	0.56	3.67	2.54	2.54	1.83	3.30
Feb	57	1.98	4.03	2.95	2.98	2.26	3.73
Mar	57	2.95	6.17	4.45	4.41	3.51	5.39
Apr	57	3.76	6.99	5.09	5.12	4.05	5.99
May	57	4.52	9.84	5.69	5.80	4.92	6.80
Jun	57	5.20	8.64	6.72	6.80	5.85	7.77
Jul	57	5.02	9.47	7.70	7.52	6.10	8.79
Aug	57	5.26	12.20	7.17	7.26	6.30	8.23
Sep	57	3.63	9.26	5.76	5.80	4.83	6.83
Oct	57	2.76	8.17	4.92	5.05	4.18	5.92
Nov	57	2.46	5.32	3.52	3.56	2.81	4.19
Dec	57	1.69	6.46	2.70	2.84	2.22	3.44

Annual Evap		*****					
Statistics		*****					

n	Min	Max	Median	Mean	10%ile	90%ile
57	50.69	76.71	59.27	59.68	53.96	66.38

Monthly Precip		*****					
Statistics		*****					

n	Min	Max	Median	Mean	10%ile	90%ile
852	0.00	21.31	1.83	2.47	0.30	5.31

Month	n	Min	Max	Median	Mean	10%ile	90%ile
Jan	71	0.01	11.13	1.20	1.65	0.22	3.03
Feb	71	0.00	6.37	1.48	1.82	0.12	3.95
Mar	71	0.00	4.21	0.96	1.40	0.15	3.30
Apr	71	0.00	6.78	1.47	1.82	0.17	4.50
May	71	0.00	9.29	2.62	3.13	0.76	6.19
Jun	71	0.05	11.09	2.63	2.95	0.56	5.52
Jul	71	0.04	13.22	1.21	2.20	0.26	5.24
Aug	71	0.16	12.56	1.96	2.93	0.57	5.95
Sep	71	0.54	21.31	4.19	5.15	1.48	9.99
Oct	71	0.00	15.36	2.85	3.44	0.50	7.41
Nov	71	0.02	6.13	1.26	1.72	0.41	3.91
Dec	71	0.01	6.99	1.08	1.51	0.22	3.40

Annual Precip		*****					
Statistics		*****					

n	Min	Max	Median	Mean	10%ile	90%ile
71	15.72	44.57	29.19	29.70	19.96	40.54

<b>Average Monthly ETo (PET)</b> (inches/month)														
City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
<b>Corpus Christi</b>	2.42	2.95	4.28	5.17	5.95	6.43	6.68	6.65	5.21	4.34	3.01	2.59	<b>55.68</b>	
<b>Years of Data</b>	52													

Averages were computed using climatic data over the entire period of record available from the National Weather Service and compared to ETo rates based on the standardized Penman-Monteith equation where available. (August 2005)

Texas Water Resources Institute, Irrigation Technology Center, Texas A&M University (TAM-IRT), 2011.  
*Sinton Weather Station Evapotranspiration Data.* [<http://texaset.tamu.edu>]

## Average Relative Humidity(%)

Morning (M), Afternoon (A)

DATA THROUGH 2002	YEARS		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC		ANN	
	M	A	M	A	M	A	M	A	M	A	M	A	M	A	M	A	M	A	M	A	M	A	M	A	M	A		
BIRMINGHAM AP, AL	39	39	80	64	79	60	79	57	83	57	86	60	84	59	86	62	86	61	87	62	87	58	83	60	81	63	83	60
HUNTSVILLE, AL	35	35	82	68	80	63	80	60	82	57	86	60	88	61	90	64	91	63	89	63	87	59	84	62	82	67	85	62
MOBILE, AL	40	40	83	65	83	61	85	60	88	58	88	60	89	61	90	66	91	66	90	65	87	59	86	62	85	66	87	62
MONTGOMERY, AL	39	39	82	64	80	60	82	57	86	57	88	60	88	60	90	64	91	64	89	62	89	58	87	60	84	64	86	61
ANCHORAGE, AK	49	49	75	73	75	68	70	57	66	53	63	49	67	56	74	63	78	65	80	64	78	66	78	74	77	76	73	64
ANNETTE, AK	37	37	81	77	80	73	77	69	76	66	76	69	79	69	81	71	84	73	86	75	85	78	83	79	83	80	81	73
BARROW, AK	51	51	69	66	67	67	68	75	74	85	82	87	84	88	84	92	86	91	87	85	84	78	79	73	73	80	78	79
BARTER IS., AK	40	40	70	70	69	67	67	67	73	74	86	84	89	87	89	86	91	88	90	87	84	83	75	75	70	70	79	78
BETHEL, AK	52	52	78	77	76	74	80	75	83	72	80	62	78	60	86	68	91	73	92	71	88	76	84	81	78	78	83	72
BETTLES, AK	52	52	69	68	67	64	67	60	66	60	62	50	60	47	69	53	79	61	79	62	78	72	73	72	70	70	70	70
BIG DELTA, AK	43	43	65	64	68	61	64	52	57	44	50	38	57	44	64	49	69	51	70	53	74	66	69	67	68	68	65	55
COLD BAY, AK	33	33	85	83	85	81	85	78	84	77	84	75	87	77	90	82	91	82	88	79	84	77	84	81	84	83	86	79
FAIRBANKS, AK	50	50	70	71	68	65	68	63	60	45	53	37	60	43	70	50	78	55	79	55	80	68	75	74	72	73	69	57
GULKANA, AK	50	50	72	71	73	67	70	54	64	45	58	40	60	42	68	48	71	49	75	52	79	65	76	75	73	70	57	
HOMER, AK	53	53	78	75	78	70	75	65	72	63	70	63	71	64	76	69	79	69	80	68	77	72	78	76	78	76	68	
JUNEAU, AK	36	36	78	74	81	71	79	66	77	61	75	61	75	61	79	67	82	70	86	74	84	76	81	77	81	79	80	70
KING SALMON, AK	54	54	79	76	78	71	78	67	77	62	73	56	77	59	83	64	86	67	86	66	85	68	83	77	79	77	80	88
KODIAK, AK	55	55	79	76	79	73	76	69	74	69	76	72	79	75	82	77	80	74	81	73	78	68	72	77	74	78	73	
KOTZEBUE, AK	39	39	73	73	73	73	73	71	78	75	82	78	81	77	83	77	85	77	83	74	82	77	78	77	75	79	75	
MCGRATH, AK	48	48	73	72	73	64	73	53	68	49	63	44	66	47	75	56	83	62	84	61	84	70	79	76	75	75	61	
NOME, AK	39	39	74	74	73	72	73	70	76	74	76	73	76	73	82	78	83	79	81	73	80	71	77	75	74	74	77	
ST. PAUL ISLAND, AK	24	24	84	83	86	84	87	83	86	81	89	81	92	83	95	89	89	90	83	83	78	82	80	84	83	88	83	
TALKEETNA, AK	51	51	73	69	74	64	71	57	67	52	65	49	70	53	79	61	84	64	84	64	80	67	75	71	73	75	62	
UNALAKleet, AK	10	10	67	69	71	73	71	70	76	74	76	71	80	74	81	75	82	73	80	69	77	71	74	73	68	69	75	72
VALDEZ, AK	30	30	75	74	74	68	72	64	71	61	73	61	78	64	84	71	85	72	87	74	78	70	74	70	76	75	77	69
YAKUTAT, AK	38	38	85	82	86	77	83	71	78	69	78	71	81	74	85	78	86	79	88	78	89	79	87	82	86	85	84	77
FLAGSTAFF, AZ	45	45	74	50	74	45	72	41	67	32	63	27	32	21	67	37	77	44	74	37	72	36	70	43	72	51	70	39
PHOENIX, AZ	42	42	64	32	59	27	56	24	42	17	34	14	30	12	43	20	50	23	48	23	49	22	56	27	65	33	50	23
TUCSON, AZ	62	62	62	32	58	27	53	23	42	16	34	13	32	13	56	28	65	33	55	27	52	25	54	28	62	34	52	25
WINSLOW, AZ	25	25	76	47	68	33	61	25	52	20	43	16	37	14	58	27	65	30	65	29	60	26	66	33	57	45	60	29
YUMA, AZ	14	14	57	28	56	24	52	21	47	17	44	15	41	13	49	22	55	24	57	24	54	23	56	27	58	32	52	22
FORT SMITH, AR	38	38	82	65	80	60	79	57	82	56	88	62	88	60	88	58	89	60	87	57	84	61	83	65	85	60	85	60
LITTLE ROCK, AR	38	38	80	65	79	61	78	59	82	60	87	62	85	58	86	58	85	61	84	55	81	60	79	63	80	60	83	60
BAKERSFIELD, CA	26	26	85	63	80	53	74	44	67	33	57	27	52	24	49	23	53	25	57	28	62	34	77	50	83	61	66	39
BISHOP, CA	7	7	67	32	68	31	58	20	53	17	49	15	39	14	46	14	50	16	50	16	53	24	64	29	54	20	54	20
BLUE CANYON, CA	13	13	56	58	61	61	66	61	61	54	55	47	47	38	41	34	42	34	48	42	50	48	57	60	55	59	53	50
FRESNO, CA	39	39	91	68	89	56	86	47	80	35	71	27	65	24	61	22	66	24	71	28	77	35	87	54	91	68	78	41
LONG BEACH, CA	32	32	76	53	78	54	80	55	80	51	81	55	82	56	82	54	82	53	84	54	81	54	79	53	72	50	80	54
LOS ANGELES AP, CA	43	43	71	61	75	64	79	66	80	65	83	67	85	68	86	69	85	69	84	68	80	66	72	62	68	60	79	65
LOS ANGELES C.O., CA	43	43	64	50	70	52	74	52	79	54	80	55	80	54	82	52	79	53	75	52	72	54	59	47	59	48	73	52
OUNT SHASTA, CA	13	13	76	66	75	60	75	52	71	43	69	39	67	36	64	28	65	29	66	33	71	46	78	62	77	67	71	47
REDDING, CA	16	16	84	61	82	51	78	46	76	38	72	33	63	25	60	20	60	19	61	23	68	30	82	51	83	59	72	38
SACRAMENTO, CA	16	16	91	70	89	61	86	53	83	44	82	38	78	32	77	30	78	29	77	31	79	37	87	57	88	67	83	46
SAN DIEGO, CA	42	42	72	58	74	60	76	61	76	60	78	65	81	67	82	67	83	67	81	67	76	75	73	73	76	71	77	63
SAN FRANCISCO AP, CA	43	43	86	68	85	66	82	63	82	60	83	60	84	59	86	60	87	61	85	59	82	59	84	64	85	68	84	62
SAN FRANCISCO C.O., CA	8	8	81	63	83	63	80	61	82	61	88	68	78	63	80	65	80	64	87	63	81	62	85	61	85	60	86	60
SANTA BARBARA, CA	6	6	80	57	79	58	83	60	76	58	83	60	88	62	90	64	90	64	86	63	86	61	82	77	81	85	83	60
SANTA MARIA, CA	26	26	82	61	85	62	86	65	86	64	85	65	85	67	86	71	88	75	88	69	86	62	85	62	85	59	87	62
STOCKTON, CA	26	26	90	71	89	61	84	50	80	41	74	34	71	29	68	28	69	29	71	32	75	38	83	57	91	71	79	45
ALAMOSA, CO	45	45	78	57	78	48	74	36	71	30	72	28	74	25	83	35	85	38	81	33	76	34	78	47	77	56	79	39
DENVER, CO	35	35	63	49	67	44	67	40	67	35	70	38	69	35	68	34	69	35	68	34	65	36	68	49	52	40	67	40
GRAND JUNCTION, CO	39	39	78	62	73	47	64	35	58	28	54	25	44	19	48	22	52	24	53	27	59	33	71	47	77	59	61	36
PUEBLO, CO	23	23	69	49	66	37	68	34	58	31	70	32	70	28	74	32	76	35	72	32	69	33	74	46	59	61	70	37
BRIDGEPORT, CT	36	36	70	59	70	57	70	55	69	53	75	59	78	61	78	60	79	61	82	61	80	59	77	60	75	59	75	60
HARTFORD, CT	43	43	72	57	72	53	73	5																				

INDIANAPOLIS, IN	43	43	81	71	81	67	80	61	79	56	82	57	83	57	87	60	90	60	90	57	87	57	84	66	83	72	84	62	
SOUTH BEND, IN	39	39	82	73	81	68	80	61	78	56	79	54	81	55	84	57	89	59	89	59	84	60	83	68	83	75	83	62	
DES MOINES, IA	41	41	77	70	79	67	78	63	77	58	78	59	80	60	83	61	85	63	84	62	79	59	79	66	80	72	80	63	
DUBUQUE, IA	35	35	78	72	79	69	79	65	77	60	79	61	83	64	86	65	89	66	87	65	81	62	81	69	82	74	82	66	
SIOUX CITY, IA	43	43	78	71	80	69	80	66	78	57	79	58	82	61	86	63	89	66	86	63	81	58	82	67	82	73	82	64	
WATERLOO, IA	43	43	78	72	80	71	82	68	81	59	81	58	84	60	86	63	90	64	89	63	83	61	83	69	82	74	83	65	
CONCORDIA, KS	40	40	78	67	79	64	78	59	80	57	84	61	84	59	81	56	83	59	82	58	78	55	80	63	79	67	80	61	
DODGE CITY, KS	39	39	76	61	76	58	76	54	76	51	81	56	80	53	76	50	79	52	79	53	75	51	77	57	76	60	77	55	
GOODLAND, KS	36	36	76	61	77	53	78	48	78	43	84	48	82	42	82	40	83	42	79	41	75	45	76	59	75	61	79	48	
TOPEKA, KS	38	38	78	66	78	64	78	60	80	58	84	62	86	63	85	63	87	62	87	61	83	58	81	64	80	67	82	62	
WICHITA, KS	49	49	79	65	78	62	77	57	78	56	83	60	83	56	79	53	81	57	80	56	76	59	80	65	80	58	80	58	
GREATER CINCINNATI AP	40	40	80	69	78	64	78	59	77	54	81	56	84	57	86	58	89	58	87	54	84	56	80	63	81	69	82	60	
JACKSON, KY	21	21	78	64	76	60	73	53	71	48	82	57	86	62	90	63	91	62	89	60	83	55	76	58	79	65	81	59	
LEXINGTON, KY	39	39	81	69	79	64	77	58	76	55	81	58	84	58	86	59	88	58	85	57	81	63	81	68	82	60	77	55	
LOUISVILLE, KY	42	42	78	65	77	61	76	57	76	52	82	56	83	57	85	58	87	57	88	57	85	55	80	61	79	66	81	59	
PADUCAH, KY	18	18	81	71	80	68	77	65	80	62	87	66	88	67	90	69	92	69	91	67	86	65	82	68	82	71	85	67	
BATON ROUGE, LA	43	43	85	67	84	62	86	61	89	60	91	62	92	63	92	66	91	64	89	59	89	63	87	66	89	63	87	63	
LAKE CHARLES, LA	38	38	87	72	87	67	89	67	90	65	93	67	93	68	94	69	94	68	92	67	91	62	89	66	89	70	91	67	
NEW ORLEANS, LA	54	54	85	68	84	65	84	63	87	62	89	62	90	65	91	68	89	67	87	62	86	64	85	68	87	65	87	65	
SHREVEPORT, LA	50	50	83	66	82	62	83	60	86	60	90	63	90	62	90	61	90	59	89	60	88	59	86	62	85	65	87	62	
CARIBOU, ME	58	58	75	67	75	63	76	60	76	56	74	52	78	56	83	58	86	59	88	61	86	62	85	71	80	71	80	61	
PORTLAND, ME	62	62	76	61	76	57	75	58	73	55	75	58	78	60	80	59	83	59	86	60	84	59	82	62	79	61	79	59	
BALTIMORE, MD	49	49	73	57	72	54	72	51	72	49	77	52	72	50	80	53	84	55	85	55	84	54	79	54	75	57	78	54	
BLUE HILL, MA	49	49	76	62	75	59	75	57	72	52	75	55	78	58	80	56	82	58	83	59	80	56	79	60	75	61	78	58	
BOSTON, MA	38	38	69	58	68	56	70	57	69	55	72	59	73	58	74	57	77	59	79	61	77	58	74	59	70	59	73	58	
WORCESTER, MA	47	47	73	60	72	57	71	55	68	50	70	51	75	57	77	58	79	59	82	61	78	56	78	61	75	62	75	57	
ALPENA, MI	43	43	81	71	80	66	83	61	80	54	78	52	80	52	85	54	90	58	91	61	87	61	84	69	83	73	83	61	
DETROIT, MI	44	44	80	70	79	65	79	60	78	54	78	53	79	54	82	54	86	57	87	57	84	57	82	65	81	70	81	60	
FLINT, MI	39	39	81	72	80	68	80	61	78	56	78	54	81	56	84	55	89	58	90	59	85	60	83	68	82	74	83	62	
GRAND RAPIDS, MI	39	39	82	73	81	68	81	63	79	57	79	53	82	56	84	56	89	59	89	60	86	62	83	70	83	75	83	63	
HOUGHTON LAKE, MI	38	38	84	73	83	68	84	62	80	54	78	50	82	55	86	55	91	60	92	62	88	64	87	73	85	76	85	63	
LANSING, MI	39	39	82	73	81	68	81	62	79	56	78	54	82	57	86	57	91	60	91	61	88	63	85	70	85	76	84	63	
MUSKEGON, MI	42	42	81	75	81	70	80	63	77	57	76	55	81	58	84	59	89	62	89	63	84	65	81	70	81	75	82	64	
SAULT STE. MARIE, MI	61	61	81	74	81	70	82	66	80	59	79	55	85	62	88	62	92	63	92	67	89	67	86	75	84	77	85	66	
DULUTH, MN	41	41	78	72	77	68	78	66	76	59	76	56	82	63	85	63	88	66	88	67	82	65	81	72	80	75	81	66	
INTERNATIONAL FALLS, MN	60	60	75	70	70	74	66	76	62	76	55	77	53	83	59	88	60	91	63	90	66	85	65	84	75	80	75	82	64
MINNEAPOLIS-ST.PAUL, MN	43	43	76	69	76	77	66	74	74	55	75	55	78	58	81	59	84	61	84	63	80	61	80	68	78	71	83	63	
ROCHESTER, MN	42	42	81	76	81	74	82	71	80	63	80	60	83	62	86	65	89	67	88	67	83	64	84	73	84	78	83	68	
SAINT CLOUD, MN	50	50	78	71	79	68	81	65	80	55	80	54	85	59	88	59	91	62	90	63	85	61	83	70	80	73	83	63	
JACKSON, MS	39	39	86	68	86	63	86	60	90	58	91	60	91	61	93	64	94	63	93	62	92	59	90	62	87	66	90	62	
MERIDIAN, MS	38	38	86	65	86	61	87	58	90	58	91	61	91	61	92	64	93	63	91	62	91	58	89	60	87	64	89	61	
TUPELO, MS	19	19	82	70	80	67	80	61	84	61	88	65	89	65	90	66	91	66	90	65	88	63	85	67	83	70	86	66	
COLUMBIA, MO	33	33	80	69	80	67	78	62	78	59	85	65	87	64	87	63	87	63	87	63	84	62	81	66	81	70	83	64	
KANSAS CITY, MO	30	30	77	67	78	66	77	62	77	59	83	63	85	64	85	64	86	64	86	64	80	60	79	66	79	68	81	64	
ST. LOUIS, MO	42	42	81	68	80	65	79	61	77	58	81	59	82	59	83	60	86	61	82	59	81	65	82	69	82	62	76	62	
SPRINGFIELD, MO	42	42	78	65	78	63	77	59	79	55	83	63	87	64	87	62	87	60	87	63	82	59	80	63	80	66	82	62	
BILLINGS, MT	43	43	65	57	66	51	68	46	69	42	70	42	73	39	64	32	61	30	65	37	64	36	65	43	65	54	65	57	
GLASGOW, MT	38	38	77	73	79	70	80	58	75	42	74	40	77	41	74	35	69	32	72	37	75	47	80	65	79	73	76	51	
GREAT FALLS, MT	41	41	67	61	67	55	69	49	69	42	71	41	72	41	68	31	66	30	68	37	65	44	65	56	65	60	68	46	
HELENA, MT	37	37	72	64	73	54	73	46	70	39	71	38	73	38	67	30	68	37	72	35	73	43	74	58	73	66	72	45	
KALISPELL, MT	38	38	82	76	82	67	81	54	78	43	80	44	85	46	84	36	82	35	84	42	85	53	84	73	83	79	82	54	
MISSOULA, MT	42	42	85	76	85	66	83	51	80	42	81	42	83	42	87	31	75	30	82	38	85	50	86	71	86	80	82	52	
GRAND ISLAND,																													

GUAM, PC	9	9	87	73	87	72	86	70	88	70	89	72	88	73	90	77	91	78	92	79	90	77	88	77	87	76	89	74
JOHNSTON ISLAND, PC	23	23	76	68	77	68	78	70	79	71	78	70	77	69	78	69	79	71	80	72	79	73	78	72	78	70	77	70
KOROR, PC	51	51	80	76	80	75	78	73	78	74	79	77	81	78	81	78	80	77	79	76	79	77	80	77	80	76	77	76
KWAJALEIN, MARSHALL IS., PC	42	42	79	72	78	70	79	71	81	74	83	77	81	75	84	77	83	77	83	76	83	76	81	75	81	75	81	75
MAJURO, MARSHALL IS., PC	47	47	80	75	79	74	80	75	83	77	83	78	84	78	84	78	83	77	82	76	83	77	82	77	82	76	77	76
PAGO PAGO, AMER SAMOA, PC	34	34	88	75	75	88	75	89	75	89	76	87	76	85	76	83	74	84	74	84	74	84	76	85	75	86	75	
POHNPEI, CAROLINE IS., PC	32	32	85	78	84	76	85	77	88	79	90	81	92	80	94	79	95	79	95	79	94	79	93	80	87	79	90	79
CHUUK, E. CAROLINE IS., PC	32	32	81	76	81	75	75	84	77	85	78	86	78	88	78	88	77	88	77	87	78	86	78	83	79	85	77	
WAKE ISLAND, PC	45	45	77	66	78	66	80	67	81	68	82	68	82	68	82	70	83	71	83	71	82	71	80	69	78	67	81	69
YAP, W CAROLINE IS., PC	54	54	79	76	78	74	77	73	76	73	78	75	80	77	81	77	82	78	81	78	81	78	80	77	79	76		
ALLENTOWN, PA	52	52	76	62	76	57	75	53	74	50	78	53	80	54	82	53	86	56	88	57	85	55	82	59	79	62	80	56
ERIE, PA.	37	37	78	72	77	70	77	65	75	62	76	79	64	80	64	82	65	82	65	77	63	76	68	77	72	76	66	
HARRISBURG, PA	49	49	72	58	71	55	72	52	70	49	74	52	77	53	79	52	83	55	85	56	82	54	77	57	73	58	76	54
MIDDLETOWN/HARRISBURG INTL APT	37	37	73	59	72	55	72	53	71	50	75	52	76	52	78	52	81	54	84	55	81	54	76	56	72	58	76	54
PHILADELPHIA, PA	43	43	74	60	72	55	72	53	71	50	75	53	77	53	78	54	81	54	83	56	83	54	78	56	74	59	76	55
PIITTSBURGH, PA	42	42	77	66	75	62	76	57	74	51	77	52	80	53	83	54	86	56	87	57	82	55	79	62	78	67	79	58
AVOCA, PA	47	47	76	66	75	61	74	57	72	52	76	52	82	56	83	55	86	58	88	60	84	58	79	63	77	67	79	59
WILLIAMSPORT, PA	57	57	77	62	76	58	77	53	75	49	80	51	84	54	87	55	90	57	92	59	89	57	82	61	78	63	82	57
BLOCK IS., RI	15	15	73	65	73	65	75	65	79	65	80	66	83	69	87	72	86	71	84	70	80	66	76	65	72	65	79	67
PROVIDENCE, RI	39	39	72	57	71	54	72	53	70	49	73	53	76	56	77	56	80	56	82	57	81	54	78	57	74	58	75	55
CHARLESTON AP, SC	60	60	83	56	82	52	83	50	84	49	85	53	86	59	88	62	90	63	90	62	89	56	86	53	84	55	86	56
COLUMBIA, SC	36	36	83	54	82	49	84	48	84	44	85	48	86	51	88	53	91	56	92	55	91	51	89	51	84	53	86	51
GREENVILLE-SPARTANBURG AP, SC	40	40	77	55	76	51	76	50	78	48	83	53	85	54	87	56	89	58	89	59	86	53	82	53	79	55	82	54
ABERDEEN, SD	34	34	79	73	80	74	83	70	82	59	81	57	84	61	86	59	87	58	85	58	82	59	83	71	81	74	83	65
HURON, SD	43	43	77	70	80	71	83	68	72	59	83	59	85	61	86	58	88	59	86	58	81	58	82	66	80	71	83	63
RAPID CITY, SD	52	52	69	64	71	65	75	54	73	47	76	48	78	49	74	41	72	37	68	39	67	46	69	60	69	64	72	51
SIOUX FALLS, SD	39	39	78	71	80	71	82	67	81	59	81	58	81	60	84	60	86	62	85	61	81	60	83	69	81	73	82	64
BRISTOL-JHNSN CTY-KNGSPRT, TN	41	41	81	62	80	58	80	52	82	50	89	55	90	58	92	61	93	60	93	57	90	53	85	56	82	62	86	57
CHATTAANOOGA, TN	72	72	82	62	81	57	81	53	82	49	86	53	87	55	89	57	91	57	91	56	90	53	85	56	83	61	86	56
KNOXVILLE, TN	42	42	82	64	80	59	80	55	82	52	87	57	89	59	90	61	92	60	92	59	90	56	85	59	83	64	86	59
MEMPHIS, TN	63	63	78	65	77	61	76	58	77	56	81	58	82	59	84	60	85	59	85	58	82	54	79	58	78	64	80	59
NASHVILLE, TN	37	37	79	66	79	62	77	57	79	56	85	60	86	60	88	61	89	61	89	62	86	58	81	62	80	66	83	61
ABILENE, TX	39	39	72	56	72	56	70	51	72	50	78	55	78	54	71	49	72	50	76	55	75	54	75	56	73	56	74	54
AMARILLO, TX	41	41	71	53	72	52	69	46	68	42	75	48	77	49	73	46	77	50	79	52	73	48	73	50	71	52	73	49
AUSTIN, TX	41	41	78	63	78	61	79	59	82	60	88	64	88	61	87	56	85	55	85	59	83	59	82	62	79	63	83	60
BROWNSVILLE, TX	36	36	88	70	89	66	88	63	89	64	90	65	90	64	91	60	91	61	91	65	90	64	87	66	87	69	89	65
CORPUS CHRISTI, TX	38	38	87	70	87	68	87	65	89	66	92	70	93	67	93	62	92	62	90	65	89	63	87	66	88	68	86	66
DALLAS-FORT WORTH, TX	39	39	79	63	78	61	79	59	81	59	86	63	85	59	79	53	78	53	82	59	82	58	81	61	80	63	81	59
DEL RIO, TX	23	23	74	60	72	57	70	54	74	57	78	61	78	60	74	57	75	59	80	62	80	63	80	75	59	76	60	
EL PASO, TX	42	42	65	34	55	27	47	21	39	17	41	17	45	19	61	29	65	33	66	33	63	30	61	33	65	38	56	27
GALVESTON, TX	96	96	85	77	84	74	85	74	86	75	84	73	81	70	81	70	81	69	81	68	80	65	83	72	85	76	83	72
HOUSTON, TX	33	33	85	68	86	65	87	65	89	64	91	66	92	65	92	63	92	63	92	64	91	62	89	65	87	67	89	65
LUBBOCK, TX	55	55	72	52	71	52	67	44	67	42	74	47	76	48	73	49	76	52	74	57	77	51	73	49	72	51	73	49
MIDLAND-ODESSA, TX	39	39	71	51	71	48	65	40	66	38	73	43	75	46	70	45	73	47	78	53	78	49	75	49	72	46	72	46
PORT ARTHUR, TX	42	42	88	71	87	67	88	66	90	66	92	68	93	68	94	70	94	69	92	68	91	63	89	66	89	70	91	68
SAN ANGELO, TX	42	42	75	56	75	53	71	48	73	47	79	53	80	54	75	48	76	50	82	58	81	56	80	56	78	56	77	53
SAN ANTONIO, TX	60	60	80	61	80	59	79	57	82	59	87	62	87	60	86	65	85	54	85	57	84	57	81	59	80	60	83	58
VICTORIA, TX	41	41	87	69	87	66	87	63	89	64	91	66	92	65	92	62	92	62	95	65	90	62	89	64	87	68	90	65
WACO, TX	39	39	83	66	82	64	82	62	84	62	88	65	86	60	81	53	79	51	84	58	84	59	84	63	83	61	86	61
WICHITA FALLS, TX	42	42	79	59	78	58	78	54	80	53	85	57	84	55	76	48	77	49	83	56	82	57	80	59	80	55	80	55
SALT LAKE CITY, UT	43	43	79	69	78	60	74	66	76	59	74	62	84	64	84	65	86	64	84	64	80	61	77	62	80	63	74	63
BURLINGTON, VT	37	37	73	64	74	61	75	58	73	52	73	51	77	54	78	53	83	56	86	60	81	60	78	65	77	67	77	59

Cloudy days	18	15	16	15	11	6	6	7	8	8	12	17	<b>138</b>
Days with fog	6	5	4	2	1	-	-	-	0	1	3	5	<b>27</b>
Highest Temperature	91	94	106	102	102	103	103	104	105	99	98	94	<b>106</b>
Record hottest month, mean temp	1950 68.7	1962 70.4	1953 74.9	1967 80.1	1978 83.2	1998 87.2	1980 87.5	2010 87.1	1900 84.9	2004 80.4	1909 74.7	1984 70.2	July 1980, 87.5 F
Lowest Temperature	18	12	28	37	41	56	57	63	51	35	27	16	<b>12</b>
Record coldest month, mean temp	1966 54.3	1905 52.9	1915 59.1	1931 67.9	1901 73.8	1913 78.3	1901 81.0	1973 81.5	1979 77.7	1976 70.1	1976 60.8	1989 51.8	Dec 1989, 51.8 F
Avg Days above 90	-	-	1	3	9	23	28	28	19	5	-	-	<b>116</b>
Avg Days below 32	1	-	-	-	-	-	-	-	-	-	-	1	<b>2</b>



corpusChristi	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
Avg High	65.0	69.0	75.7	81.7	86.2	90.4	93.3	93.4	89.7	83.9	75.8	68.3	<b>81.0</b>
Avg Low	45.3	48.0	55.3	63.2	69.5	73.4	74.8	75.0	72.3	63.9	55.6	48.4	<b>62.1</b>
Avg Rain	1.62	1.84	1.74	2.05	3.48	3.538	2.00	3.54	5.03	3.94	1.74	1.75	<b>32.26</b>
Avg Snowfall	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>
Avg Wind	N/ 15.0	SE/ 16.1	SE/ 17.3	SE/ 15.0	SE/ 13.8	SE/ 12.7	SE/ 12.7	SE/ 12.7	SE/ 11.5	SE/ 10.4	SE/ 13.8	SE/ 15.0	SE/ 13.8
Max Wind Speed	52	60	54	67	60	61	49	48	61	53	60	54	<b>67</b>
Avg T-storm Days	1	1	2	2	5	3	3	4	5	2	1	1	<b>29</b>
# Tornadoes in county 1950-2009	-	1	3	8	14	12	8	19	17	11	1	1	<b>95</b>
Incidents in county w hail => 1.75", 1950-2009	-	-	1	-	14	1	-	-	2	1	-	-	<b>19</b>
Avg relative humidity %pm	62	59	57	61	64	62	56	56	60	57	58	60	<b>59</b>
Discomfort from heat/humidity	-	-	-	Mod	High	High	High	High	High	High	-	-	
Max UV Index	High	High	Very High	Extr	Extr	Extr	Extr	Extr	Very High	Very High	High	Mod	
% possible Sunshine	44	49	55	56	59	72	80	77	68	68	54	44	<b>61</b>

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## **Attachment 3-B**

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### **Annual Cropping Plan**

## ANNUAL CROPPING PLAN

**Falcon Refinery  
F.M. 2725 and Bishop Road  
Ingleside, Texas 78362  
TXD 086 278 058**

### Introduction

A Texas Land Application Permit (TLAP) is proposed for the spray irrigation of effluent onto vacant, undeveloped pasture land that is owned and contained within the property limits of the Falcon Refinery. The source of the effluent is rainfall that accumulated inside unused, empty aboveground storage tanks. The rainwater will be treated through carbon filtration prior to disposal via spray irrigation.

The effluent is not domestic or industrial sewage. The nitrogen loading was calculated in the engineering report and is approximately 0.465 pounds per acre per day.

The zone of land designated for irrigation contains only native vegetation: wild grasses, weeds, and small shrubs. There are no crops being grown or maintained on the property. Thus, there are no harvests of native grasses conducted at this site. The grounds are mowed one to two times per year to control the overgrowth of native vegetation. 98.8 percent of the irrigation area is located within the Mustang Fine Sand soil group, and 0.2 percent is within the Galveston-Mustang association, according to the Natural Resources Conservation Service (NRCS) maps. The surface soil type contains high salinity due to the proximity and annual flooding of sea water; as such, the native vegetation has a high tolerance for salt, estimated to be in the range of 8 to 12 millisiemens (millimhos) per centimeter at 25° C.

The purpose of this land application is to dispose of a fixed volume of approximately 2 million gallons of water via irrigation. This land application will not be used for the purpose of growing or sustaining crops.

### Irrigated Land Maintenance

During all months of the year, there are no crops being grown on the land. The existing native vegetation is not being maintained other than growth control through mowing that is performed once or twice per year. There will be no nitrogen loading as part of this land application. There are no additional fertilizer requirements for the irrigation of native grasses, weeds, and small shrubs. There are no supplemental watering requirements for the native vegetation. Salt tolerances are in the range of 8 to 12 millisiemens per centimeter. 100 percent of the total irrigation acreage used for water disposal is composed of native grasses, weeds and small shrubs.

The non-removal of vegetation overgrowth will not lead to the buildup in nutrients because this area is subject to frequent heavy rains, and some flooding, on an annual basis. These events provide periodic flushing and leaching of nutrients. The effluent is not sewage, and does not contribute nitrogen and phosphorus to the soil. The effluent is filtered rain water. Therefore, a build-up of nutrients is not expected for this application.

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## **Attachment 3-C**

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### **Texas Water Well Report**



**BANKS**  
ENVIRONMENTAL DATA  
A DIVISION OF THE BANKS GROUP

# Water Well Report™

**Wednesday, July 13, 2011**

## CLIENT

TRC ENVIRONMENTAL, INC.-AUSTIN  
505 East Huntland Drive  
#250  
Austin, TX 78752

## SITE

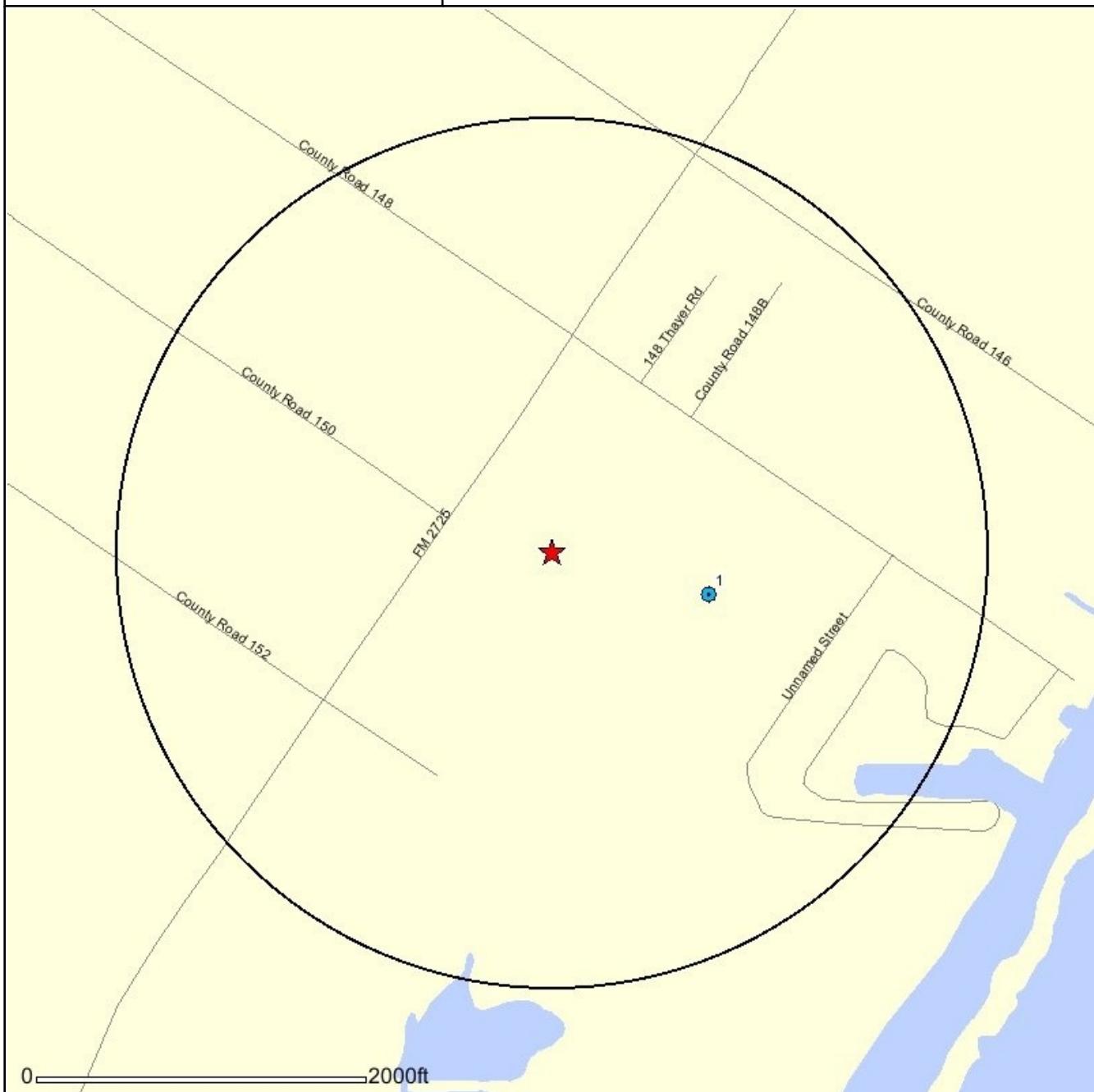
Falcon Refinery  
F.M. 2725 & Bishop Road  
Ingleside , TX TX  
PO #: 182978-06  
ES #: 81457  
  
BISMap #: 071311-4023



**BANKS**  
ENVIRONMENTAL DATA  
A DIVISION OF THE BANKS GROUP

# Water Well Report™

## Map of Wells within 0.5 Mile(s)



- ★ Site
- Well
- Cluster
- Limited Access Hwy
- Primary Highway
- Secondary Highway
- Roads
- Railroad
- County
- State
- Urban Area
- Water Bodies

One inch = 0.19 miles

### Falcon Refinery

Banks Environmental Data  
1601 Rio Grande Suite 500 Austin, Texas 78701  
PH 512-478-0059 FAX 512-478-1433  
E-Mail: [banks@banksinfo.com](mailto:banks@banksinfo.com)





**BANKS**  
ENVIRONMENTAL DATA  
A DIVISION OF THE BANKS GROUP

**Water Well Report™**  
on USGS Topo

**Map of Wells within 0.5 Mile(s)**



- ★ Subject Site
- Site
- Cluster
- Existing Road
- State Line
- County Line
- Unimproved Road

One inch = 0.19 miles

**Falcon Refinery**

Banks Environmental Data  
1601 Rio Grande Suite 500 Austin, Texas 78701  
PH 512-478-0059 FAX 512-478-1433  
E-Mail: [banks@banksinfo.com](mailto:banks@banksinfo.com)





**BANKS**  
ENVIRONMENTAL DATA  
A DIVISION OF THE BANKS GROUP

# Water Well Report™

on 1996 Aerial Photo

## Map of Wells within 0.5 Mile(s)



- ★ Subject Site
- Site
- Cluster
- Primary Highway
- State Line
- County Line
- Roads & Ramps
- Railroad
- Limited Access Hwy

One inch = 0.19 miles

### Falcon Refinery

Banks Environmental Data  
1601 Rio Grande Suite 500 Austin, Texas 78701  
PH 512-478-0059 FAX 512-478-1433  
E-Mail: [banks@banksinfo.com](mailto:banks@banksinfo.com)





**BANKS**  
ENVIRONMENTAL DATA  
A DIVISION OF THE BANKS GROUP

**Water Well Report™**  
on 2004 Aerial Photo

**Map of Wells within 0.5 Mile(s)**



- ★ Subject Site
- Site
- Cluster
- Primary Highway
- State Line
- County Line
- Roads & Ramps
- Railroad
- Limited Access Hwy

One inch = 0.19 miles

**Falcon Refinery**

Banks Environmental Data  
1601 Rio Grande Suite 500 Austin, Texas 78701  
PH 512-478-0059 FAX 512-478-1433  
E-Mail: [banks@banksinfo.com](mailto:banks@banksinfo.com)





**BANKS**  
ENVIRONMENTAL DATA  
A DIVISION OF THE BANKS GROUP

# Water Well Report™

## DETAILS

Map #	Source ID	Owner of Well	Type of Well	Depth Drilled	Completion Date	Longitude	Latitude	Driller's Log
-------	-----------	---------------	--------------	---------------	-----------------	-----------	----------	---------------

1	83-15-2F	(b) (6)	Domestic	40	5/30/1972	-97.17688	27.85669	<a href="#">View</a>
1	83-15-2F		Domestic	135	3/10/1976	-97.17688	27.85669	<a href="#">View</a>

1601 Rio Grande Suite 500 Austin, Texas 78701  
PH 512.478.0059 FAX 512.478.1433 E-mail [banks@banksinfo.com](mailto:banks@banksinfo.com)

83-15-2F

Send original copy by certified mail to the Texas Water Development Board P. O. Box 12386 Austin, Texas 78711		State of Texas	For TWDB use only Well No. <i>83-15-2F</i> Located on map <i>yes</i> Received: <i>22</i>
WATER WELL REPORT			
1) OWNER: Person having well drilled	(b) (6)	(b) (6)	Address <i>Some</i> (Street or RFD) (City) (State)
Landowner <i>Some</i> (Name)	Address <i>Some</i> (Street or RFD) (City) (State)		
2) LOCATE: County	(b) (6)	(b) (6)	(b) (6)
Locate by sketch (b) (6) hiway number, etc.	miles in (b) (6)		direction from (b) (6)
(Use reverse side if necessary)		Give legal location with distances and directions from adjacent sections or survey lines. Labor _____ League _____ Block _____ Surveyor <i>Dorothy</i> Abstract No. <i>Dorothy</i> (NW <sub>1</sub> NE <sub>1</sub> SW <sub>1</sub> SE <sub>1</sub> ) of Section <i>Farm tract 2</i>	
3) TYPE OF WORK (Check): New Well <input checked="" type="checkbox"/> Deepening Reconditioning Plugging	4) PROPOSED USE (Check): Domestic <input checked="" type="checkbox"/> Industrial Municipal Irrigation Test Well Other	5) TYPE OF WELL (Check): Rotary <input checked="" type="checkbox"/> Driven Dug Cable Jetted Bored	
6) WELL LOG: Diameter of hole <i>4</i> in. Depth drilled <i>45</i> ft. Depth of completed well <i>40</i> ft. Date drilled <i>5-30-74</i>			
All measurements made from <i>0</i> ft. above ground level.			
From (ft.) To (ft.) Description and color of formation material	9) Casing: Type: Old <input checked="" type="checkbox"/> New <input checked="" type="checkbox"/> Steel Plastic <input checked="" type="checkbox"/> Other Cemented from _____ ft. to _____ ft.		
<i>0 - 6 Silty sand</i>	Diameter (inches) Setting From (ft.) To (ft.) Gage		
<i>6 - 20 light clay</i>			
<i>20 - 30 clay with sand</i>			
<i>30 - 40 clay blue</i>			
<i>40 - 45 sand</i>			
10) SCREEN: Type Perforated Slotted			
Diameter (inches)	Setting From (ft.) To (ft.)	Slot Size	
(Use reverse side if necessary)			
7) COMPLETION (Check): Straight wall Gravel packed Other Under reamed Open <i>type</i>	11) WELL TESTS: Was a pump test made? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> If yes, by whom?		
8) WATER LEVEL: Static level <i>4</i> ft. below land surface Date _____	Yield: gpm with _____ ft. drawdown after _____ hrs.		
Artesian pressure _____ lbs. per square inch Date _____	Bailer test gpm with _____ ft. drawdown after _____ hrs.		
Depth to pump bowls, cylinder, jet, etc., _____ ft. below land surface.	Artesian flow gpm Temperature of water _____		
12) WATER QUALITY: Was a chemical analysis made? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Did any strata contain undesirable water? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Type of water: <i>sulfur</i> depth of strata <i>5-6 ft</i>			
I hereby certify that this well was drilled by me (or under my supervision) and that are true to the best of my knowledge and belief.			
NAME <i>(b) (6)</i>	Water Well Drillers Registration No. <i>171</i>		
ADDRESS <i>(b) (6)</i>	TEXAS (State)		
(Signed) <i>(b) (6)</i>	<i>SOME</i> (Company Name)		
Please attach electric log, chemical analysis, and other pertinent information, if available.			

\*Additional instructions on reverse side.

83-15-2F

Send original copy by  
certified mail to the  
Texas Water Development Board  
P. O. Box 13087  
Austin, Texas 78711

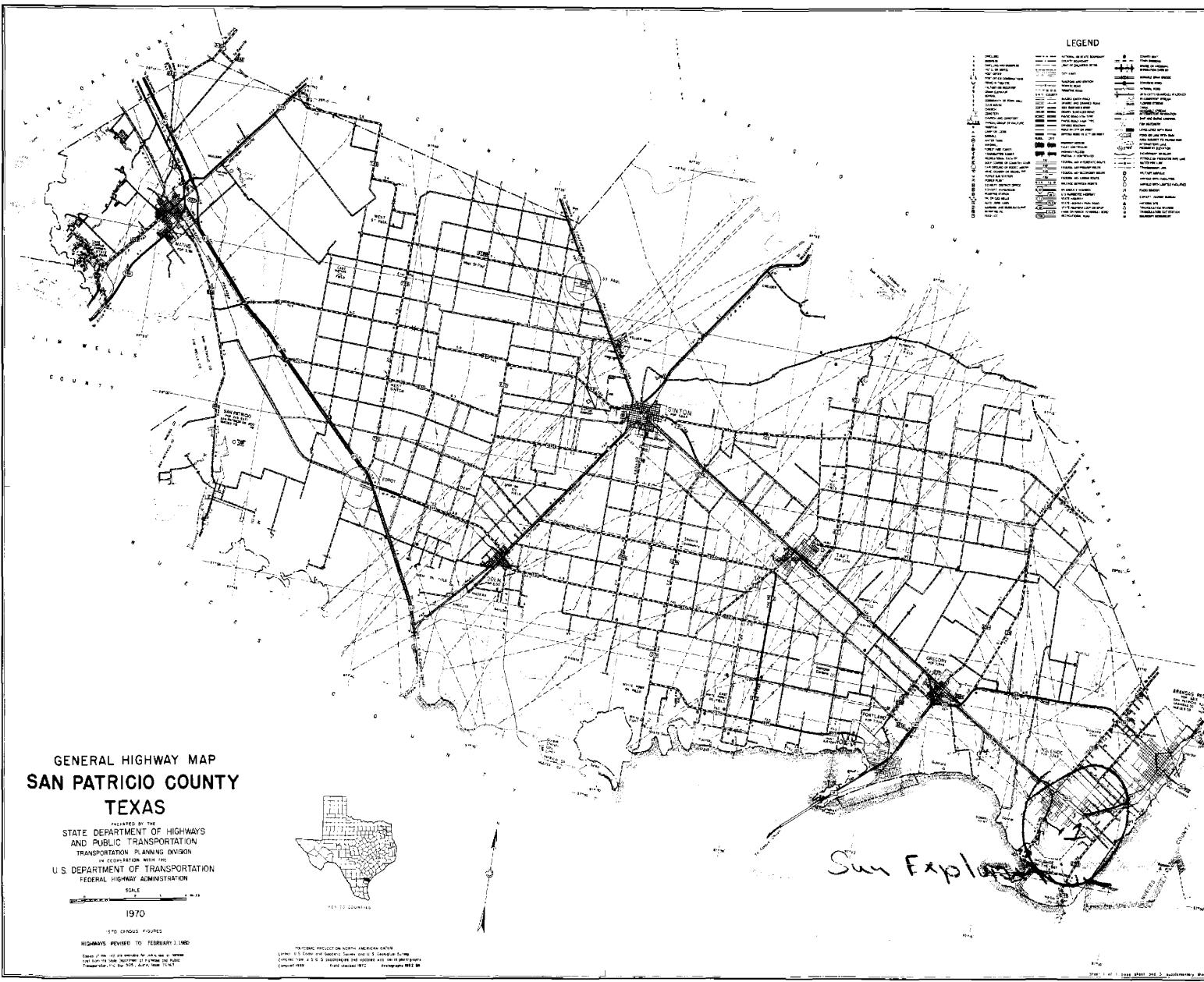
State of Texas

## WATER WELL REPORT

For TWDB use only  
Well No. 83-15-2F  
Located on map  
Received: 12/16/68

1) OWNER: Person having well drilled _____ (b) (6)		Address _____ (b) (6)		
Landowner _____ (Name) _____ (b) (6)		Address _____ (Street, or RFD) _____ (City) _____ (State)		
2) LOCATION OF WELL: County <u>San Patricio</u> , _____ miles in _____ (N.E., S.W., etc.) direction from _____ (Town) Locate by sketch map showing landmarks, roads, creeks, highway number, etc. <u>In town:</u> (b) (6)		or Give legal location with distances and directions from adjacent sections or survey lines. Labor _____ League _____ Block _____ Survey _____ Abstract No. _____ (NW <sub>1/4</sub> NE <sub>1/4</sub> SW <sub>1/4</sub> SE <sub>1/4</sub> ) of Section		
3) TYPE OF WORK (Check): <input checked="" type="checkbox"/> New Well      Deepening <input type="checkbox"/> Reconditioning      Plugging		4) PROPOSED USE (Check): <input checked="" type="checkbox"/> Domestic      Industrial      Municipal <input type="checkbox"/> Irrigation      Test Well      Other	5) TYPE OF WELL (Check): <input checked="" type="checkbox"/> Rotary      Driven      Dug <input type="checkbox"/> Cable      Jetted      Bored	
6) WELL LOG: Diameter of hole <u>6 1/8</u> in. Depth drilled <u>135</u> ft. Depth of completed well <u>135</u> ft. Date drilled <u>3-10-76</u> All measurements made from <u>0</u> ft. above ground level.				
From (ft.) To (ft.) Description and color of formation material <u>5</u> shale <u>5</u> <u>15</u> sand <u>15</u> <u>33</u> shale <u>33</u> <u>39</u> sand <u>39</u> <u>40</u> shale <u>40</u> <u>64</u> sand <u>64</u> <u>92</u> shale <u>92</u> <u>97</u> sand <u>97</u> <u>103</u> shale <u>103</u> <u>120</u> sand <u>120</u> <u>134</u> shale <u>134</u> - <u>135</u> sand (Use reverse side if necessary)		9) Casing: Type: Old <input checked="" type="checkbox"/> New Steel <input checked="" type="checkbox"/> Plastic Other Cemented from _____ ft. to _____ ft. Diameter (inches) Setting From (ft.) To (ft.) Cage <u>4 1/2</u> od <u>0</u> <u>135</u> Sched. 40	10) SCREEN: Type: Perforated <input checked="" type="checkbox"/> Slotted Diameter (inches) Setting From (ft.) To (ft.) Slot Size <u>4 1/2</u> od <u>115</u> <u>135</u> .012	
7) COMPLETION (Check): <input checked="" type="checkbox"/> Straight wall      Gravel packed      Other Under reamed      Open Hole		11) WELL TESTS: Was a pump test made? Yes No If yes, by whom? Yield: _____ gpm with _____ ft. drawdown after _____ hrs. Bailer test _____ gpm with _____ ft. drawdown after _____ hrs. Artesian flow _____ gpm Temperature of water _____		
8) WATER LEVEL: Static level <u>12</u> ft. below land surface Date <u>3-11-76</u> Artesian pressure _____ lbs. per square inch Date _____ Depth to pump bowls, cylinder, jet, etc., _____ ft. below land surface.		12) WATER QUALITY: Was a chemical analysis made? Yes <input checked="" type="checkbox"/> No Did any strata contain undesirable water? Yes <input checked="" type="checkbox"/> No Type of water? _____ depth of strata <u>20 ft</u>		
NAME _____ (b) (6)		Water Well Drillers Registration No. <u>543</u> ADDRESS _____ (b) (6) _____ (City) _____ (State) (Signed) <u>Weltly Water Wellers</u> (Company Name)		
Please attach electric log, chemical analysis, and other pertinent information, if available.				

\*Additional instructions on reverse side.





**BANKS**  
ENVIRONMENTAL DATA  
A DIVISION OF THE BANKS GROUP

# Water Well Report™

## DISCLAIMER/DETAILS

Banks Environmental Data, Inc. has performed a thorough and diligent search of all wells recorded with Texas state agencies. All mapped locations are based on information obtained from the originating agency. Although Banks performs quality assurance and quality control on all research projects, we recognize that any inaccuracies of the records and mapped well locations could be traced to the appropriate regulatory authority or driller. Many water well schedules may have never been submitted to the regulatory authority by the driller and, may explain the possible unaccountability of privately drilled wells. Therefore, Banks Environmental Data, Inc. cannot guarantee the accuracy of the data or well locations of those maps and records maintained by the Texas regulatory authorities. Banks Environmental Data, Inc. Water Well Report™ is prepared from existing state water well databases and additional file research conducted at Texas' regulatory authorities. Submission of driller's log records became mandatory in 1985. The state of Texas has processed these records in several different filing systems within two state regulatory authorities. The water well files, records and map locations are maintained by the Texas Commission on Environmental Quality (TCEQ) and the Texas Water Development Board (TWDB). Actual water well site locations of this report are geocoded and geoplotted directly from the drilling records, drilling schedules, and driller's logs and maps submitted by the water well driller and maintained at these two primary water well regulatory authorities. Below is a description of the filing systems accessed for well drilling records.

The Texas Water Development Board (TWDB) maintains two datasets of located water well records:

- 1) **TWDB Groundwater Data GW** - A registered water well driller is required by law to send in a report to the State for every well that is drilled. This requirement began in 1966. TWDB GW wells are assigned a State Identification Number unique to that well (ie: 65-03-4 01.) Where exact latitude/longitude data was not provided by the driller, latitude and longitude were assigned that locate the well in the center of a 2 ½-minute grid on a topographic map. Records may also include analytical data.
- 2) **TWDB Submitted Drillers Reports WIID** - The Submitted Driller's Report Database is populated from the online Texas Well Report Submission and Retrieval System which is a cooperative Texas Department of Licensing and Regulation (TDLR) and Texas Water Development Board (TWDB) application that registered water-well drillers use to submit their required reports. This system was started 2/5/01 and is optional for the drillers to use. Reports that drillers submit by mail are geoplotted/geocoded by a TWDB staff member. WIID wells are assigned a unique tracking number by the Texas Well Report Submission and Retrieval System. (ie: 972 63, 9416)

The Texas Commission on Environmental Quality (TCEQ) maintains two datasets of water well records. Where TCEQ's datasets are included in the Banks Environmental Data, Inc. Water Well Report, a description and example identifier are listed below.

- 1) **Water Utility Database** - This database contains a collection of data from Texas Water Districts, Public Drinking Water Systems and Water and Sewer Utilities who submit information to the TCEQ.

**Public Water Systems Database PWS** - The Public Water Systems records included in the WUD report are obtained digitally from TCEQ. The PWS database does not contain Drillers Reports or analytical data. The PWS Watersource name is the unique identifier in Banks Reports (StateID- S2200199A, G2200322A). Public water system IDs that begin with 'G' are groundwater wells. PWS IDs that begin with 'S' are surface intakes.

- 2) **TCEQ Central Records** - Several different types of Driller's Reports are filed with TCEQ Central Records.

**A) Plotted Water Well Reports** - Plotted Well logs are filed at TCEQ Central File Room based on county name, and grid number. Water well site locations are documented on the logs by the drillers. The accuracy and location of the Plotted wells are relative to the information provided on the drillers report. (ie: 65-59-1)

From 1991 to the 2001, Texas Well Reports contain a grid location box, where drillers mark an X to indicate where the well is located within the 2.5 minute quadrant. These locations have not been verified by the state.

**B) Partially Numbered** Well Completion Reports that were provided a State Identification Number by the TWDB that establishes the well location somewhere within a 2.5 minute quadrant of a 7.5 minute quadrangle map. This method was the standard procedure from 1986 through 1991.

Some of the historical well logs have a letter following the grid number. TWDB assigned letters to the correlating grid number to identify these wells (ie: 65-59-1A). In some instances, a single well number can represent more than one well location. This type of mapping and filing procedure ceased in June 1986.

**Local Groundwater Conservation Districts/Subsidence Districts** maintain separate databases from state agencies. Duplicates groundwater wells are likely between local GCDs/GSDs and TWDB and TCEQ databases.

Where reasonably ascertainable, local GCD/SD data are included in the water well report. For example, in the Harris/Galveston area the Harris Galveston Subsidence District dataset is included in the report. (ie: HGSD1234) HGSD does not maintain well completion logs.

**U.S. Geological Survey (USGS)** maintains The National Water Information System (NWIS)Inventory. Banks water well report includes NWIS inventory (ie: USGS1234).

# TWDB Groundwater Database Query Result

## REPORTED WATER WELL DATA ON STATE WELL NUMBER = 8315203

Query for another State Well Number:

| [Water Quality](#) | [Infrequent Constituent](#) | [Water Level](#) | [5 Day Water Level](#) | [Well Casing](#) | [Remarks](#) | [Scanned Images](#) |

\*For a complete explanation, [click here to read the TWDB Groundwater Data System Data Dictionary.](#)

Field	Value	*Explanation
STATE WELL NUMBER	8315203	
COUNTY CODE	409	San Patricio County, Texas
BASIN	20	San Antonio-Nueces Rivers Basin
PREVIOUS WELL NUMBER	145	
LATITUDE	(b) (6)	DMS (in decimal degrees: 27.854722)
LAT DEC		
LONGITUDE		DMS (in decimal degrees: -97.188611)
LONG DEC		
OWNER 1		
OWNER 2		
DRILLER 1		
DRILLER 2		
SOURCE OF COORDINATES	2	
AQUIFER CODE	112CHCT	CHICOT AQUIFER
AQUIFER ID1	15	Gulf Coast Aquifer
AQUIFER ID2		
AQUIFER ID3		
ELEVATION	11	feet
ELEVATION MEASUREMENT METHOD	M	Interpolated From Topo Map
ALPHA CODE		
DATE DRILLED	00001913	
WELL TYPE	W	Withdrawal of Water
WELL DEPTH	50	feet
SOURCE OF DEPTH	O	Owner
TYPE OF LIFT	P	Piston
TYPE OF POWER	W	Windmill
HORSEPOWER		
PRIMARY WATER USE	H	Domestic

SECONDARY WATER USE	S	Stock
TERTIARY WATER USE		
WATER LEVEL AVAILABLE	H	Click <a href="#">here</a> for water level data
WATER QUALITY AVAILABLE	N	
WELL LOGS AVAILABLE		
OTHER DATA AVAILABLE		
DATE COLLECTED OR UPDATED	00001964	
REPORTING AGENCY	02	US GEOLOGICAL SURVEY
WELL SCHEDULE IN FILE		
CONSTRUCTION METHOD		
COMPLETION		
CASING MATERIAL		
SCREEN MATERIAL		
GMA	16	
RWPA	N	
DISTRICTID	200516NY	

### Groundwater Database Disclaimer

The Groundwater Database (GWDB) of the Texas Water Development Board (TWDB) contains information about more than 123,500 water well, spring, and oil/gas test sites in Texas including associated water level and water quality data. Because data collection methods and data maintenance have varied and evolved over the years, the information in the GWDB has a range of accuracy that the user needs to be aware of. See [Explanation of Groundwater Data](#) for information on the sources of information and level of accuracy in the document.

The TWDB is providing information via this Web site as a public service. Except where noted, all of the information provided is believed to be accurate and reliable; however, the Texas Water Development Board (TWDB) assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. **PLEASE NOTE** that users of this Web site are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via this Web site. TWDB specifically disclaims any and all liability for any claims or damages that may result from providing the Web site or the information it contains, including any Web sites maintained by third parties and linked to the TWDB Web site. TWDB makes no effort to verify independently, and does not exert editorial control over information on pages outside of the www.twdb.state.tx.us domain and its sub-domains. It is the user's responsibility to take precautions to ensure that whatever is selected is free of such items as viruses, worms, Trojan horses and other items of a destructive nature.

For additional information or answers to questions concerning the TWDB GWDB contact [David Thorkildsen](#) at (512) 936-0871 or [Janie Hopkins](#) at (512) 936-0841.

[You can download Groundwater Database Reports in ASCII text files from this link](#). The files are organized by Texas counties.

# Groundwater Database Query Result

## REPORTED WATER LEVEL DATA ON STATE WELL NUMBER = 8315203

Query for another State Well Number:

| [Water Quality](#) | [Infrequent Constituent](#) | [Water Level](#) | [5 Day Water Level](#) | [Well Casing](#) | [Remarks](#) | [Scanned Images](#) |

[Click here to read the TWDB GroundWater Data System Data Dictionary](#) for explanation.

No.	STATE WELL NUMBER	PUBLISHABLE/NON-PUBLISHABLE	DEPTH FROM LAND SURFACE	MONTH	DAY	YEAR	MEASUREMENT NUMBER	MEASURING AGENCY	METHOD OF MEASUREMENT	REMARK
1	8315203	P	-11.7	9	13	1938	01	05	1	01
2	8315203	P	-10.59	3	18	1940	01	12		01
3	8315203	P	-10.58	8	6	1940	01	12		01
4	8315203	P	-10.32	11	21	1940	01	12		01
5	8315203	P	-10.12	2	27	1941	01	12		01
6	8315203	P	-8.01	5	17	1941	01	12		01
7	8315203	P	-7.47	5	31	1941	01	12		01
8	8315203	P	-9.55	9	12	1941	01	12		01
9	8315203	P	-9.16	1	21	1942	01	12		01
10	8315203	P	-9.02	6	27	1942	01	12		01
11	8315203	P	-7.06	11	7	1945	01	12		01
12	8315203	P	-6.86	12	26	1945	01	12		01
13	8315203	P	-7.87	11	21	1947	01	12		01
14	8315203	P	-7.19	11	16	1949	01	12		01
15	8315203	P	-9.6	11	14	1950	01	12		01
16	8315203	P	-8.16	11	21	1951	01	12		01
17	8315203	P	-8.29	12	8	1953	01	12		01
18	8315203	P	-9.04	12	13	1954	01	12		01
19	8315203	P	-5.41	12	5	1955	01	12		01
20	8315203	P	-9.82	12	5	1956	01	12		01
21	8315203	P	-8.74	12	10	1957	01	12		01
22	8315203	P	-6.04	11	19	1959	01	12		01
23	8315203	P	-6.18	9	29	1960	01	01	1	
24	8315203	P	-7.4	2	13	1963	01	01	1	
25	8315203	P	-8.13	3	17	1964	01	01	1	

[Go Back](#)

### Groundwater Database Disclaimer

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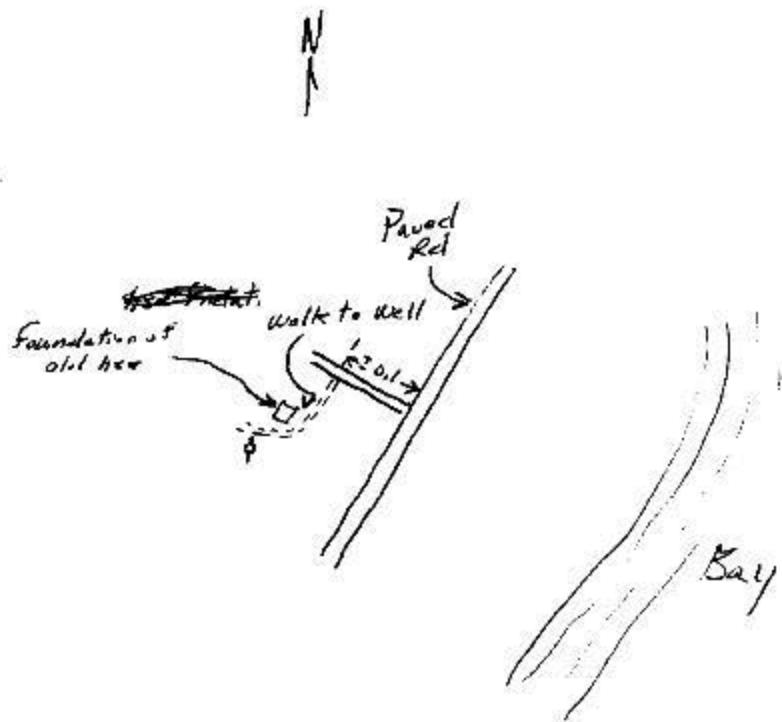
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Last updated on 1/30/2009 9:10:02 AM*



45W

10

5-228-July 1936  
Revised

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
WATER RESOURCES BRANCH

**WELL SCHEDULE**

Date Sept 3 1936 Field No. 577  
Recorded by I.W. Hansen Office No. 145  
Source of data (b) (6)

1. Location: State (b) (6)  
Map (b) (6)

2. Owner: H.A. Stevens Address 1200 Main St.  
Tenant (b) (6) Address (b) (6)  
Driller (b) (6) Address (b) (6)

3. Topography (b) (6)

4. Elevation 11.96 ft. above  
below (b) (6)

5. Type: Dug, drilled, driven, etc., jetted 10.13

6. Depth 50 ft. Mean (b) (6)

7. Casing: Diam. 4 in. to 4 in. Type (b) (6)  
Depth (b) (6) ft. Finish Top (b) (6)

8. Chief Aquifer (b) (6) From (b) (6) to (b) (6)  
Others (b) (6)

9. Water level 12.70 ft. 13 19.28 above  
(b) (6) (b) (6) Which is 1.0 ft. below (b) (6)

10. Pump: Type Cat Capacity G.M.  
Power: Kind Electric Horsepower (b) (6)

11. Yield: Flow G.M. Pump G.M. Mean, Rept. Est. (b) (6)  
Drawdown ft. after hours pumping G.M.

12. Use: Dom., Stock, P.S., R.R., Ind., Irr., Obs.  
Adequacy, permanence (b) (6)

13. Quality Potable, H. (b) (6) Temp. (b) (6)  
Taste, odor, color (b) (6) Sample No

14. Remarks (See Analysis, etc.) Owner's request Analyze

U.S. GOVERNMENT PRINTING OFFICE 5-228

43-15-203

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
Water Resources Branch

Field No. 145  
Office No. 145  
County San Patricio  
Type of well GW

Measuring Point Top of Casing  
Elev. M.P. (b) (6)  
Height of Mesa. Point above land-surface datum 1.0 12.96

Date	Depth to water below mean point	Ht. N.P. above L.S.D.	Depth to water below L.S.D.	Mean by	Remarks
12-14-50	10.60	1.0	9.60	545	H.W. recent -
12-15-51	9.16	✓	8.16	✓	-
12-15-52	8.89	✓	8.29	745	N.W. measured - front in yard
12-15-53	9.64	✓	9.04	75	Low 1/2
12-15-55	6.01	✓	5.41	135	-
12-15-56	10.42	✓	9.82	135	-
12-16-57	9.34	✓	8.74	135	-
12-16-58	6.64	1.6	6.04	1345	M.P. from Casing 6.64 bottom 10.28 20.98
12-16-59	6.78	0.6	6.18	135	Bottom, midline 0.6 ft. N.P.
12-16-60	6.78	0.6	6.18	135	-
12-16-61	6.78	0.6	6.18	135	-
12-16-62	6.78	0.6	6.18	135	-
12-16-63	6.78	0.6	6.18	135	-
12-16-64	6.78	0.6	6.18	135	-
12-16-65	6.78	0.6	6.18	135	-
12-16-66	6.78	0.6	6.18	135	-
12-16-67	6.78	0.6	6.18	135	-
12-16-68	6.78	0.6	6.18	135	-
12-16-69	6.78	0.6	6.18	135	-
12-16-70	6.78	0.6	6.18	135	-
12-16-71	6.78	0.6	6.18	135	-
12-16-72	6.78	0.6	6.18	135	-
12-16-73	6.78	0.6	6.18	135	-
12-16-74	6.78	0.6	6.18	135	-
12-16-75	6.78	0.6	6.18	135	-
12-16-76	6.78	0.6	6.18	135	-
12-16-77	6.78	0.6	6.18	135	-
12-16-78	6.78	0.6	6.18	135	-
12-16-79	6.78	0.6	6.18	135	-
12-16-80	6.78	0.6	6.18	135	-
12-16-81	6.78	0.6	6.18	135	-
12-16-82	6.78	0.6	6.18	135	-
12-16-83	6.78	0.6	6.18	135	-
12-16-84	6.78	0.6	6.18	135	-
12-16-85	6.78	0.6	6.18	135	-
12-16-86	6.78	0.6	6.18	135	-
12-16-87	6.78	0.6	6.18	135	-
12-16-88	6.78	0.6	6.18	135	-
12-16-89	6.78	0.6	6.18	135	-
12-16-90	6.78	0.6	6.18	135	-
12-16-91	6.78	0.6	6.18	135	-
12-16-92	6.78	0.6	6.18	135	-
12-16-93	6.78	0.6	6.18	135	-
12-16-94	6.78	0.6	6.18	135	-
12-16-95	6.78	0.6	6.18	135	-
12-16-96	6.78	0.6	6.18	135	-
12-16-97	6.78	0.6	6.18	135	-
12-16-98	6.78	0.6	6.18	135	-
12-16-99	6.78	0.6	6.18	135	-
12-16-100	6.78	0.6	6.18	135	-
12-16-101	6.78	0.6	6.18	135	-
12-16-102	6.78	0.6	6.18	135	-
12-16-103	6.78	0.6	6.18	135	-
12-16-104	6.78	0.6	6.18	135	-
12-16-105	6.78	0.6	6.18	135	-
12-16-106	6.78	0.6	6.18	135	-
12-16-107	6.78	0.6	6.18	135	-
12-16-108	6.78	0.6	6.18	135	-
12-16-109	6.78	0.6	6.18	135	-
12-16-110	6.78	0.6	6.18	135	-
12-16-111	6.78	0.6	6.18	135	-
12-16-112	6.78	0.6	6.18	135	-
12-16-113	6.78	0.6	6.18	135	-
12-16-114	6.78	0.6	6.18	135	-
12-16-115	6.78	0.6	6.18	135	-
12-16-116	6.78	0.6	6.18	135	-
12-16-117	6.78	0.6	6.18	135	-
12-16-118	6.78	0.6	6.18	135	-
12-16-119	6.78	0.6	6.18	135	-
12-16-120	6.78	0.6	6.18	135	-
12-16-121	6.78	0.6	6.18	135	-
12-16-122	6.78	0.6	6.18	135	-
12-16-123	6.78	0.6	6.18	135	-
12-16-124	6.78	0.6	6.18	135	-
12-16-125	6.78	0.6	6.18	135	-
12-16-126	6.78	0.6	6.18	135	-
12-16-127	6.78	0.6	6.18	135	-
12-16-128	6.78	0.6	6.18	135	-
12-16-129	6.78	0.6	6.18	135	-
12-16-130	6.78	0.6	6.18	135	-
12-16-131	6.78	0.6	6.18	135	-
12-16-132	6.78	0.6	6.18	135	-
12-16-133	6.78	0.6	6.18	135	-
12-16-134	6.78	0.6	6.18	135	-
12-16-135	6.78	0.6	6.18	135	-
12-16-136	6.78	0.6	6.18	135	-
12-16-137	6.78	0.6	6.18	135	-
12-16-138	6.78	0.6	6.18	135	-
12-16-139	6.78	0.6	6.18	135	-
12-16-140	6.78	0.6	6.18	135	-
12-16-141	6.78	0.6	6.18	135	-
12-16-142	6.78	0.6	6.18	135	-
12-16-143	6.78	0.6	6.18	135	-
12-16-144	6.78	0.6	6.18	135	-
12-16-145	6.78	0.6	6.18	135	-
12-16-146	6.78	0.6	6.18	135	-
12-16-147	6.78	0.6	6.18	135	-
12-16-148	6.78	0.6	6.18	135	-
12-16-149	6.78	0.6	6.18	135	-
12-16-150	6.78	0.6	6.18	135	-
12-16-151	6.78	0.6	6.18	135	-
12-16-152	6.78	0.6	6.18	135	-
12-16-153	6.78	0.6	6.18	135	-
12-16-154	6.78	0.6	6.18	135	-
12-16-155	6.78	0.6	6.18	135	-
12-16-156	6.78	0.6	6.18	135	-
12-16-157	6.78	0.6	6.18	135	-
12-16-158	6.78	0.6	6.18	135	-
12-16-159	6.78	0.6	6.18	135	-
12-16-160	6.78	0.6	6.18	135	-
12-16-161	6.78	0.6	6.18	135	-
12-16-162	6.78	0.6	6.18	135	-
12-16-163	6.78	0.6	6.18	135	-
12-16-164	6.78	0.6	6.18	135	-
12-16-165	6.78	0.6	6.18	135	-
12-16-166	6.78	0.6	6.18	135	-
12-16-167	6.78	0.6	6.18	135	-
12-16-168	6.78	0.6	6.18	135	-
12-16-169	6.78	0.6	6.18	135	-
12-16-170	6.78	0.6	6.18	135	-
12-16-171	6.78	0.6	6.18	135	-
12-16-172	6.78	0.6	6.18	135	-
12-16-173	6.78	0.6	6.18	135	-
12-16-174	6.78	0.6	6.18	135	-
12-16-175	6.78	0.6	6.18	135	-
12-16-176	6.78	0.6	6.18	135	-
12-16-177	6.78	0.6	6.18	135	-
12-16-178	6.78	0.6	6.18	135	-
12-16-179	6.78	0.6	6.18	135	-
12-16-180	6.78	0.6	6.18	135	-
12-16-181	6.78	0.6	6.18	135	-
12-16-182	6.78	0.6	6.18	135	-
12-16-183	6.78	0.6	6.18	135	-
12-16-184	6.78	0.6	6.18	135	-
12-16-185	6.78	0.6	6.18	135	-
12-16-186	6.78	0.6	6.18	135	-
12-16-187	6.78	0.6	6.18	135	-
12-16-188	6.78	0.6	6.18	135	-
12-16-189	6.78	0.6	6.18	135	-
12-16-190	6.78	0.6	6.18	135	-
12-16-191	6.78	0.6	6.18	135	-
12-16-192	6.78	0.6	6.18	135	-
12-16-193	6.78	0.6	6.18	135	-
12-16-194	6.78	0.6	6.18	135	-
12-16-195	6.78	0.6	6.18	135	-
12-16-196	6.78	0.6	6.18	135	-
12-16-197	6.78	0.6	6.18	135	-
12-16-198	6.78	0.6	6.18	135	-
12-16-199	6.78	0.6	6.18	135	-
12-16-200	6.78	0.6	6.18	135	-
12-16-201	6.78	0.6	6.18	135	-
12-16-202	6.78	0.6	6.18	135	-
12-16-203	6.78	0.6	6.18	135	-
12-16-204	6.78	0.6	6.18	135	-
12-16-205	6.78	0.6	6.18	135	-
12-16-206	6.78	0.6	6.18	135	-
12-16-207	6.78	0.6	6.18	135	-
12-16-208	6.78	0.6	6.18	135	-
12-16-209	6.78	0.6	6.18	135	-
12-16-210	6.78	0.6	6.18	135	-
12-16-211	6.78	0.6	6.18	135	-
12-16-212	6.78	0.6	6.18	135	-
12-16-213	6.78	0.6	6.18	135	-
12-16-214	6.78	0.6	6.18	135	-
12-16-215	6.78	0.6	6.18	135	-
12-16-216	6.78	0.6	6.18	135	-
12-16-217	6.78	0.6	6.18	135	-
12-16-218	6.78	0.6	6.18	135	-
12-16-219	6.78	0.6	6.18	135	-
12-16-220	6.78	0.6	6.18	135	-
12-16-221	6.78	0.6	6.18	135	-
12-16-222	6.78	0.6	6.18	135	-
12-16-223	6.78	0.6	6.18	135	-
12-16-224	6.78	0.6	6.18	135	-
12-16-225	6.78	0.6	6.18	135	-
12-16-226	6.78	0.6	6.1		

(10) 45W  
 9-185-July 1935  
 Revised

UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 GEOLOGICAL SURVEY  
 WATER RESOURCES BRANCH 83-15-203

## WELL SCHEDULE

Date July 13, 1938 Field No. 577  
 Record by C. E. Office No. 145  
 Source of data I.W. 153-1000

1. Location: State Tx County [redacted]  
 Map (b) (6)
- |   |          |   |     |   |
|---|----------|---|-----|---|
| M | 1/4 sec. | T | N R | E |
|   |          |   | S   | W |
2. Owner: H.A. Stevens Address 57 Park Row  
 Tenant  Address   
 Driller  Address
3. Topography Flat
4. Elevation ft. above ft. below
5. Type: Dug, drilled, driven, bored, jetted 10.13
6. Depth: Rept. 50 ft. Meas. ft.
7. Casing: Diam. 11 in. to in. Type steel  
 Depth ft., Finish ft.
- |  |  |  |
|--|--|--|
|  |  |  |
|  |  |  |
|  |  |  |
8. Chief Aquifer  From ft. to ft.  
 Others
9. Water level 19.70 ft. rept. 19.13 19.22 above ft. below  
meas. base which is 1.0 ft. below surface
10. Pump: Type C Capacity G. M.  
 Power: Kind Electric Horsepower
11. Yield: Flow G. M., Pump G. M., Meas., Rept. Est.   
 Drawdown ft. after hours pumping G. M.
12. Use: Dom., Stock, PS., RR., Ind., Irr., Obs.   
 Adequacy, permanence
13. Quality Colorless, H2O Temp °F.  
 Taste, odor, color  Sample Yes  
 Unit for
14. Remarks: (Log, Analyses, etc.) On July 13, 1938

U. S. GOVERNMENT PRINTING OFFICE 8-7478

Oki Well

## TEXAS WATER DEVELOPMENT BOARD

## WELL SCHEDULE

Aquifer 007Field No. 145

State Well

Driller's Well No.

(b) (6)

1. Location: 1/4, 1/4 Sec., Survey  
 (b) (6) (b) (6)

2. Owner: \_\_\_\_\_ Address: \_\_\_\_\_  
 Tenant: \_\_\_\_\_ Address: \_\_\_\_\_

3. Elevation of 5sd is 11.96 ft. above msl, determined by alt., USGS

4. Drilled to 19 13; Dog, Cable Tool, Rotary.

5. Depth: Rept. 50 ft. Max. ft.

6. Completions: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. Windmill Type Windmill

No. Stages, Bowls Diam. in., Setting ft.

Column Diam. in., Length Tailpipe ft.

8. Motor: Fuel \_\_\_\_\_ Name & Model \_\_\_\_\_ HP.

9. Yield: Flow gpm, Pump gpm, Head, Rept., Est.

10. Performance Test: Date Length of Test Made by

Static Level ft. Pumping Level ft. Drawdown ft.

Production gpm Specific Capacity gpm/ft.

11. Water Level: 17.70 ft. rept. 9-13 38 top csg  
 ft. rept. 19 above  
 --- near  
 --- ft. rept. 18 below  
 --- near  
 --- ft. rept. 19 above  
 --- near

which is 1.0 ft. above surface.  
 which is ft. above surface.  
 which is ft. above surface.  
 which is ft. above surface.

12. Use: ~~Domestic~~ Public Supply, Ind., Irr., Waterflooding, Observations, Not Used.

13. Quality: (Remarks on taste, odor, color, etc.)

Temp. °F, Date sampled for analysis 9-13-38 Laboratory USGS

Temp. °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

Temp. °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log,

Formation Sampler, Pumping Test.

15. Record by: Johnson Date 9-13 38

Source of Data

16. Remarks: Capital 6-3-76 DBC

CASING & BLANK PIPE			
Gaged From	ft. to	Setting, ft.	
Dia., (in.)	Type	From	To
<u>4</u>	<u>iron</u>	<u>50</u>	

WELL SCREEN			
Screen Openings			
Dia., (in.)	Type	Setting, ft.	

TEXAS WATER DEVELOPMENT BOARD  
WATER LEVEL OBSERVATION WELL REPORT

STATE WELL NUMBER: 8315203  
 PREVIOUS WELL NUMBER: 145 16  
 WELL LOCATION: LAT: 27 51 N  
 LONG: 097 11 02  
 WELL USE: H S 18

CURRENT DATE: Oct 5 1992  
 YEAR RECORD BEGINS: 1938  
 ELEVATION OF LAND SURFACE: 11  
 DEPTH OF WELL: 50

DATE OF CURRENT MEASUREMENT	CURRENT DEPTH TO WATER FROM MO DAY YEAR	CURRENT DEPTH TO LAND SURFACE	CHANGE IN LEVEL SINCE LAST STATIC MEASUREMENT	MEASUREMENT NUMBER	ELEVATION OF WATER LEVEL	MEASURING AGENCY	MEASUREMENT METHOD	REMARKS
09/13/1938	-11.70			01	1	12		01
03/18/1940	-10.59		1.11	01		12		01
08/06/1940	-10.58		0.01	01		12		01
11/21/1940	-10.32		0.26	01	1	12		01
02/27/1941	-10.12		0.20	01	1	12		01
05/17/1941	-8.01		2.11	01	3	12		01
05/31/1941	-7.47		0.54	01	4	12		01
09/12/1941	-9.55		-2.08	01	1	12		01
01/21/1942	-9.16		0.39	01	2	12		01
06/27/1942	-9.02		0.14	01	2	12		01
11/07/1945	-7.06		1.96	01	4	12		01
12/26/1945	-6.86		0.20	01	4	12		01
11/21/1947	-7.87		-1.01	01	3	12		01
11/16/1949	-7.19		0.68	01	4	12		01
11/14/1950	-9.60		-2.41	01	1	12		01
11/21/1951	-8.16		1.44	01	3	12		01
12/08/1953	-8.29		-0.13	01	3	12		01
12/13/1954	-9.04		-0.75	01	2	12		01
12/05/1955	-5.41		3.63	01	6	12		01
12/05/1956	-9.82		-4.41	01	1	12		01
12/10/1957	-8.74		1.08	01	2	12		01
11/19/1959	-6.04		2.70	01	5	12		01
09/29/1960	-6.18		-0.14	01	5	01	1	
02/13/1963	-7.40		-1.22	01	4	01	1	
03/17/1964	-8.13		-0.73	01	3	01	1	

AQUIFER: GULF COAST AQUIFER  
 BASIN : San Antonio-Nueces Rivers  
 COUNTY : San Patricio

WELL CLASS AND NUMBER: HISTORICAL 8315203

# TWDB Groundwater Database Query Result

## REPORTED WATER WELL DATA ON STATE WELL NUMBER = 8315206

Query for another State Well Number:

| [Water Quality](#) | [Infrequent Constituent](#) | [Water Level](#) | [5 Day Water Level](#) | [Well Casing](#) | [Remarks](#) | [Scanned Images](#) |

\*For a complete explanation, [click here to read the TWDB Groundwater Data System Data Dictionary.](#)

Field	Value	*Explanation
STATE WELL NUMBER	8315206	
COUNTY CODE	409	San Patricio County, Texas
BASIN	20	San Antonio-Nueces Rivers Basin
PREVIOUS WELL NUMBER	148	
LATITUDE	(b) (6)	DMS (in decimal degrees: 27.854444)
LAT DEC		
LONGITUDE		DMS (in decimal degrees: -97.188889)
LONG DEC		
OWNER 1		
OWNER 2		
DRILLER 1	owner	
DRILLER 2		
SOURCE OF COORDINATES	3	
AQUIFER CODE	112CHCT	CHICOT AQUIFER
AQUIFER ID1	15	Gulf Coast Aquifer
AQUIFER ID2		
AQUIFER ID3		
ELEVATION	9	feet
ELEVATION MEASUREMENT METHOD	M	Interpolated From Topo Map
ALPHA CODE		
DATE DRILLED	00001936	
WELL TYPE	W	Withdrawal of Water
WELL DEPTH	51	feet
SOURCE OF DEPTH	O	Owner
TYPE OF LIFT	P	Piston
TYPE OF POWER	W	Windmill
HORSEPOWER		
PRIMARY WATER USE	S	Stock

SECONDARY WATER USE		
TERTIARY WATER USE		
WATER LEVEL AVAILABLE	H	Click <a href="#">here</a> for water level data
WATER QUALITY AVAILABLE	N	
WELL LOGS AVAILABLE		
OTHER DATA AVAILABLE		
DATE COLLECTED OR UPDATED	00001959	
REPORTING AGENCY	02	US GEOLOGICAL SURVEY
WELL SCHEDULE IN FILE		
CONSTRUCTION METHOD		
COMPLETION		
CASING MATERIAL		
SCREEN MATERIAL		
GMA	16	
RWPA	N	
DISTRICTID	200516NY	

### Groundwater Database Disclaimer

The Groundwater Database (GWDB) of the Texas Water Development Board (TWDB) contains information about more than 123,500 water well, spring, and oil/gas test sites in Texas including associated water level and water quality data. Because data collection methods and data maintenance have varied and evolved over the years, the information in the GWDB has a range of accuracy that the user needs to be aware of. See [Explanation of Groundwater Data](#) for information on the sources of information and level of accuracy in the document.

The TWDB is providing information via this Web site as a public service. Except where noted, all of the information provided is believed to be accurate and reliable; however, the Texas Water Development Board (TWDB) assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. **PLEASE NOTE** that users of this Web site are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via this Web site. TWDB specifically disclaims any and all liability for any claims or damages that may result from providing the Web site or the information it contains, including any Web sites maintained by third parties and linked to the TWDB Web site. TWDB makes no effort to verify independently, and does not exert editorial control over information on pages outside of the www.twdb.state.tx.us domain and its sub-domains. It is the user's responsibility to take precautions to ensure that whatever is selected is free of such items as viruses, worms, Trojan horses and other items of a destructive nature.

For additional information or answers to questions concerning the TWDB GWDB contact [David Thorkildsen](#) at (512) 936-0871 or [Janie Hopkins](#) at (512) 936-0841.

[You can download Groundwater Database Reports in ASCII text files from this link](#). The files are organized by Texas counties.

# Groundwater Database Query Result

## REPORTED WATER LEVEL DATA ON STATE WELL NUMBER = 8315206

Query for another State Well Number:

| [Water Quality](#) | [Infrequent Constituent](#) | [Water Level](#) | [5 Day Water Level](#) | [Well Casing](#) | [Remarks](#) | [Scanned Images](#) |

[Click here to read the TWDB GroundWater Data System Data Dictionary](#) for explanation.

No.	STATE WELL NUMBER	PUBLISHABLE/NON-PUBLISHABLE	DEPTH FROM LAND SURFACE	MONTH	DAY	YEAR	MEASUREMENT NUMBER	MEASURING AGENCY	METHOD OF MEASUREMENT	REMARK
1	8315206	P	-10.15	3	18	1940	01	12		01
2	8315206	P	-10.08	11	21	1940	01	12		01
3	8315206	P	-9.5	2	27	1941	01	12		01
4	8315206	P	-8.54	5	17	1941	01	12		01
5	8315206	P	-8.1	5	31	1941	01	12		01
6	8315206	P	-9.31	1	21	1942	01	12		01
7	8315206	P	-7.78	11	8	1945	01	12		01
8	8315206	P	-7.69	12	26	1945	01	12		01
9	8315206	P	-7.6	11	21	1947	01	12		01
10	8315206	P	-7.3	11	16	1949	01	12		01
11	8315206	P	-8.21	11	14	1950	01	12		01
12	8315206	P	-8.28	11	21	1951	01	12		01
13	8315206	P	-8.12	12	8	1953	01	12		01
14	8315206	P	-8.72	12	13	1954	01	12		01
15	8315206	P	-9.43	12	5	1955	01	12		01
16	8315206	P	-9.37	12	5	1956	01	12		01
17	8315206	P	-8.55	12	10	1957	01	12		01
18	8315206	P	-6.91	11	19	1959	01	12		01

[Go Back](#)

### Groundwater Database Disclaimer

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[You can download Groundwater Database Reports in ASCII text files from this link](#). The files are organized by Texas counties.

TEXAS WATER DEVELOPMENT BOARD  
WATER LEVEL OBSERVATION WELL REPORT

STATE WELL NUMBER: 8315206

PREVIOUS WELL NUMBER: 148

WELL LOCATION: LAT: 27 51 1<sup>55</sup> 3  
LONG: 097 11 1<sup>55</sup>

WELL USE: S

CURRENT DATE: Oct 5 1992

YEAR RECORD BEGINS: 1940

ELEVATION OF LAND SURFACE: 9  
DEPTH OF WELL: 51

DATE OF CURRENT MEASUREMENT	CURRENT DEPTH TO WATER FROM LAND SURFACE	CHANGE IN LEVEL SINCE LAST STATIC MEASUREMENT	MEASUREMENT NUMBER	ELEVATION OF WATER LEVEL	MEASURING AGENCY	MEASUREMENT METHOD	REMARKS
-----------------------------------	---	--	-----------------------	--------------------------------	---------------------	-----------------------	---------

03/18/1940	-10.15		01	1	12		01
11/21/1940	-10.08	0.07	01	1	12		01
02/27/1941	-9.50	0.58	01	1	12		01
05/17/1941	-8.54	0.96	01		12		01
05/31/1941	-8.10	0.44	01	1	12		01
01/21/1942	-9.31	-1.21	01		12		01
11/08/1945	-7.78	1.53	01	1	12		01
12/26/1945	-7.69	0.09	01	1	12		01
11/21/1947	-7.60	0.09	01	1	12		01
11/16/1949	-7.30	0.30	01	2	12		01
11/14/1950	-8.21	-0.91	01	1	12		01
11/21/1951	-8.28	-0.07	01	1	12		01
12/08/1953	-8.12	0.16	01	1	12		01
12/13/1954	-8.72	-0.60	01		12		01
12/05/1955	-9.43	-0.71	01		12		01
12/05/1956	-9.37	0.06	01		12		01
12/10/1957	-8.55	0.82	01		12		01
11/19/1959	-6.91	1.64	01	2	12		01

AQUIFER: GULF COAST AQUIFER  
 BASIN : San Antonio-Nueces Rivers  
 COUNTY : San Patricio

WELL CLASS AND NUMBER: HISTORICAL 8315206

## TEXAS WATER DEVELOPMENT BOARD

## WELL SCHEDULE

Aquia No. 007Field No. 148State Well No. 83-15-206

Owner's Well No.

County San Patricio

1. Location:	1/4, 1/4 Sec., Block Survey		
2. Owner:	(b) (6)	(b) (6)	
Tenant:			
Driller:			
3. Elevation of	<u>Lsd</u>	is <u>9.57</u>	ft. above msl, determined by <u>alt, USGS</u>
4. Drilled:	19	<u>36</u>	Dug, Cable Tool, Rotary
5. Depth Rept.	<u>51</u>	ft. Mean	ft.
6. Completion:	Open Hole, Straight Wall, Underreamed, Gravel Packed		
7. Pump: Mfr.	Type		
No. Stages	Bowl Diam. in., Setting ft.		
Column Dia.	in., Length Tailpipe ft.		
8. Motor: Fuel	Make & Model	EP.	
9. Yield: Flow	gpm, Pump	gpm, Mean, Rept., Est.	
10. Performance Test: Date	Length of Test	Made by	
Static Level	ft. Pumping Level ft.	Drawdown ft.	
Production	gpm	Specific Capacity gpm/ft.	
11. Water Level:	<u>22.6</u>	ft. above Rept. mean	<u>below Lsd</u> which is ft. above surface.
			below surface.
			which is ft. above surface.
			below surface.
			which is ft. above surface.
			below surface.
12. Use: Non-Public Supply, Ind., Irr., Waterflooding, Observation, Not Used.			
13. Quality: (Remarks on taste, odor, color, etc.)			
Temp. °F, Date sampled for analysis	<u>9-13-38</u> Laboratory <u>USGS</u>		
Temp. °F, Date sampled for analysis	Laboratory		
Temp. °F, Date sampled for analysis	Laboratory		
14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log, Formation Samples, Pumping Test,			
15. Recorded by: <u>Johansen</u> Date <u>9-13</u> 19 <u>38</u>			
Source of Data: <u>Owner</u>			
16. Remarks: <u>Copied 6-3-76 DBC</u>			

CASING & BLANK PIPE			
Cemented From		ft. to	
Diam. (in.)	Type	Setting, ft.	
		from	to
<u>1 1/2</u>	<u>iron</u>		<u>51</u>

WELL SCREEN			
Screen Openings			
Diam. (in.)	Type	Setting, ft.	
		from	to

45W

9-185-July 1935  
RevisedUNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

WATER RESOURCES BRANCH 83-15-206

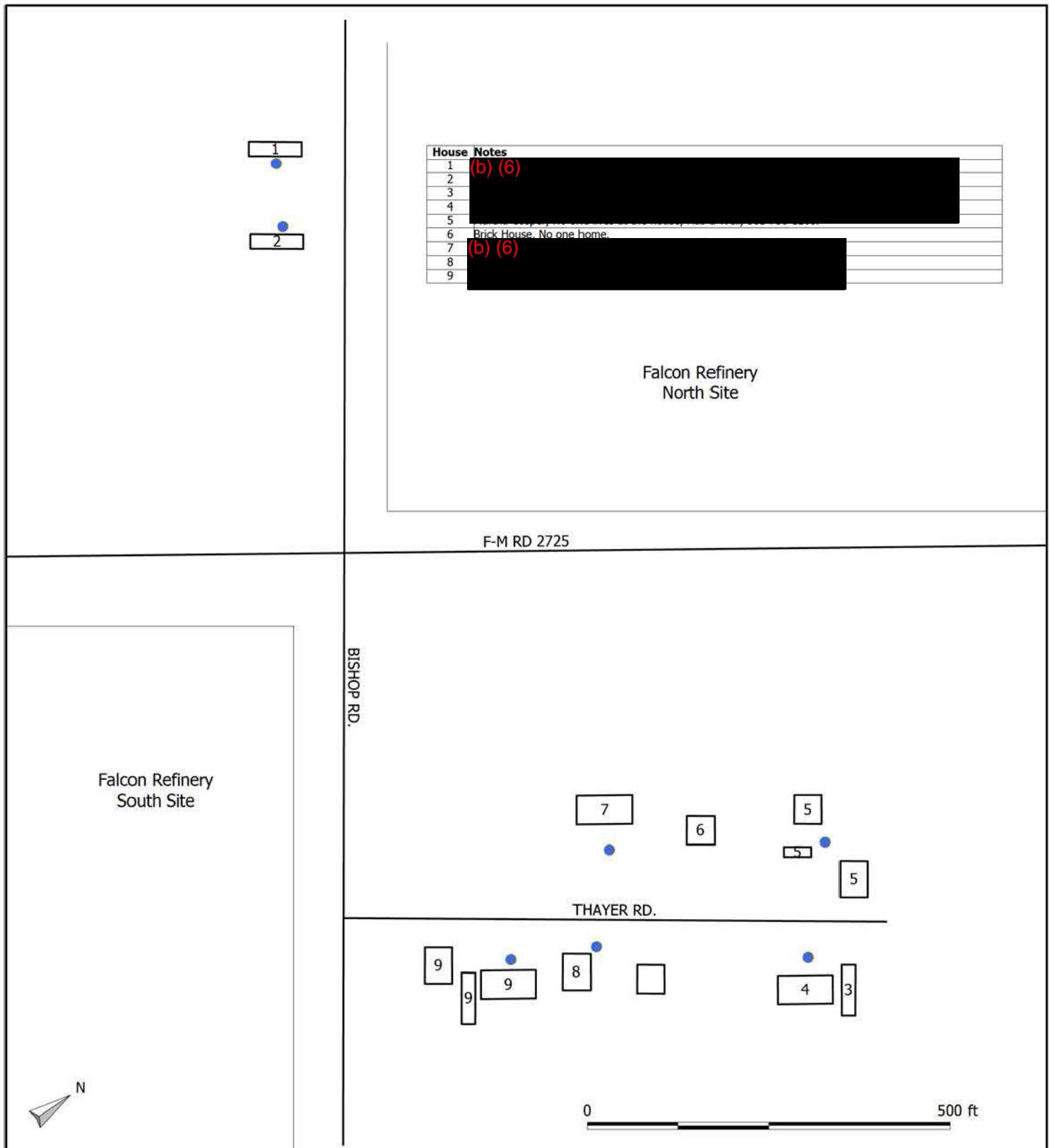
## WELL SCHEDULE

Date Sept 13, 1938 Field No 375  
 Record by C. E. Johnson Office No. 148  
 Source of data W. T. Harness

1. Location: State	Texas	County	(b) (6)
Map	(b) (6)		
2. Owner:	Address	(b) (6)	
Tenant	Address		
Driller	Address		
3. Topography	Flat		
4. Elevation	ft. above below		
5. Type:	Dug, drilled, driven, bored, jetted	1936	
6. Depth:	Rept. 51 ft. Meas.	ft.	
7. Casing: Diam.	in., to in., Type		
Depth	ft., Finish	Top to bottom	
8. Chief Aquifer	From	ft. to	ft.
Others			
9. Water level	226 ft. (rept.) meas.	19.	above below
	surface	ft. above below surface	
10. Pump: Type	Pile	Capacity	G. M.
Power: Kind	Electric	Horsepower	
11. Yield: Flow	G. M., Pump	G. M., Meas., Rept. Est.	
Drawdown	ft. after hours pumping	G. M.	
12. Use: Dom., Stock, PS., RR., Ind., Irr., Oba.			
Adequacy, permanence	Never fails		
13. Quality	bad. Not used for drinking	Temp	*F.
Taste, odor, color	Sample Yes No		
Unfit for			
14. Remarks: (Log, Analyses, etc.)	Cultivates analysis		

U. S. GOVERNMENT PRINTING OFFICE 8-748

Obs Well



### Door to Door Well Search Map



Neighborhood Water Wells  
Houses  
Roads

Note: Well Locations are approximate.

**Figure  
7**

### Door to Door Well Search Map

Falcon Refinery  
Ingleside, San Patricio County, Texas  
Project No. 59752 File: Falcon Refinery RIPS.map



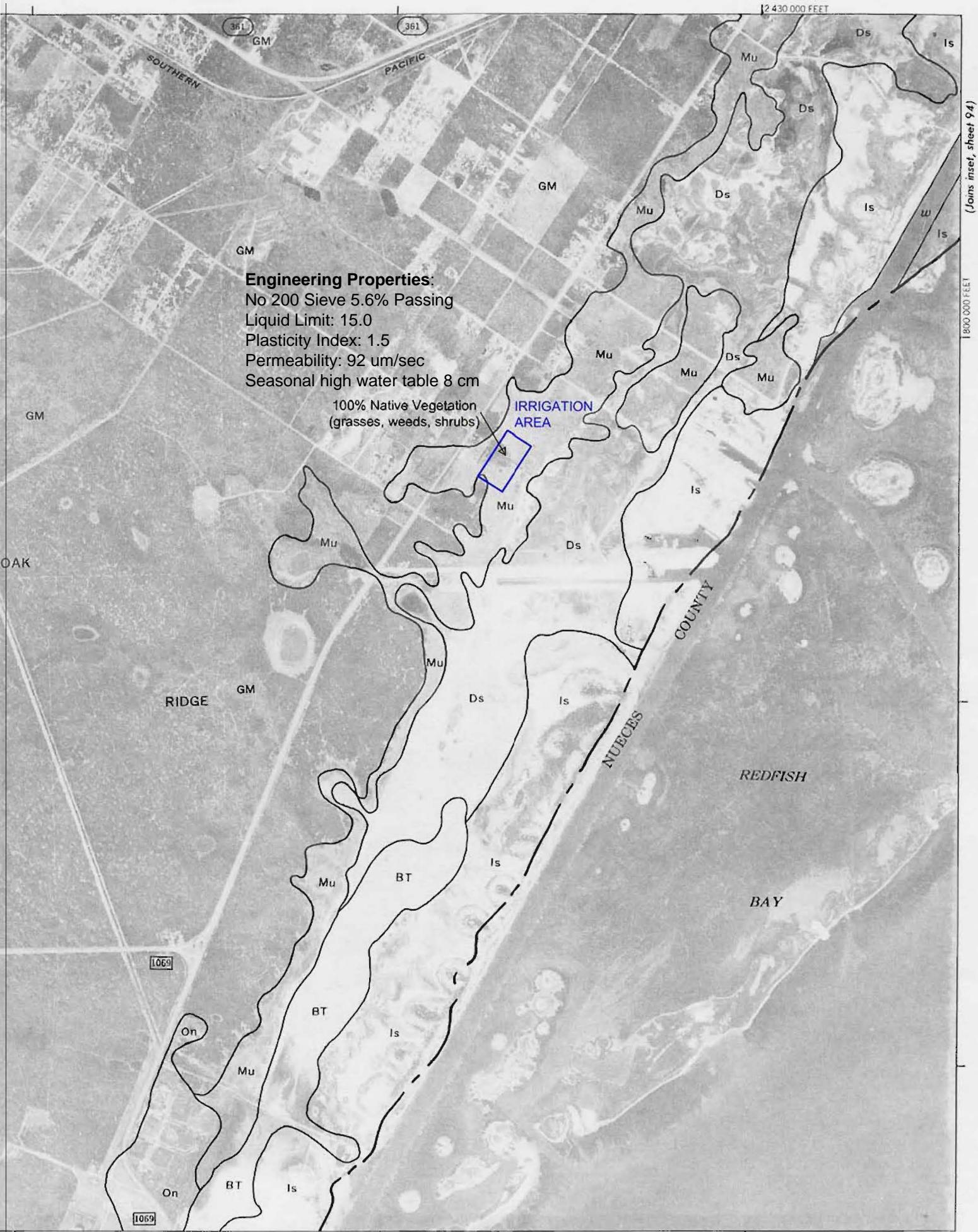
Drawn By: Josue Gallegos  
Revised By: Josue Gallegos  
Checked By: Stephen Halasz  
Date: 03/30/07

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## **Attachment 3-D**

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### **NRCS Soil Map and Soil Classification Data**



(Joins inset, sheet 94)

180000 FEET

This map is compiled on 1975 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperators.

**MoD—Monteola clay, 5 to 8 percent slopes.** This deep, sloping, moderately well drained soil is on uplands. It has weak gilgai microrelief that is generally aligned with the slope. The microhighs range to about 6 inches above the microlows. Areas of this soil range from 15 to 190 acres.

The surface layer is dark gray, moderately alkaline clay about 12 inches thick that contains concretions of calcium carbonate. Below that, to a depth of 28 inches is grayish brown, moderately alkaline, slightly saline clay that contains concretions of calcium carbonate and gypsum crystals in the lower part. The underlying material, to a depth of 60 inches, is pale brown, moderately alkaline, moderately saline clay that contains a few pockets of gypsum crystals and concretions of calcium carbonate.

This soil has medium available water capacity and very slow permeability. Surface runoff is slow to medium. This soil takes in water rapidly when dry and cracked, but very slowly when it is moist.

Included with this soil in mapping are a few small areas of Monteola clay, 5 to 8 percent slopes, that have 25 to 75 percent of the surface layer removed by water erosion. A few small areas with gullies 4 to 6 feet deep, 6 to 10 feet wide, and 5 to 30 feet apart occur around drainageways from higher-lying areas. These eroded areas have revegetated, and erosion has been stopped or greatly reduced because of improved management. Inclusions make up less than 15 percent of any one mapped area.

This soil is mainly used for range, and potential is medium for climax range vegetation. Water erosion is the main limitation, but it can be overcome by using controlled grazing and proper stocking rates to help keep a good vegetative cover on the surface and maintain productivity. This soil has low potential for wildlife habitat.

This soil has low potential for pasture production. Water erosion is the main limitation, but this can be overcome by proper fertilization, controlled grazing, proper stocking rates, and weed control. These practices will help keep a good vegetative cover on the surface, slow runoff, and maintain productivity. Improved varieties of bermudagrass, bluestem, and kleingrass are suited to this soil.

Potential is low for urban uses and recreation because of low strength, shrinking and swelling with change in moisture content, high corrosivity to uncoated steel, and a clayey surface layer.

This soil is in capability subclass Vle and Blackland range site.

**Mu—Mustang fine sand.** This is a deep, poorly drained, nearly level soil. It is on slightly concave low coastal plains, mostly in broad irregular shaped areas adjacent to and below the higher parts of the mainland and the barrier islands. Some areas of this soil are periodically flooded by salt water during high tides caused by

### Mu—Mustang fine sand

storms, and all are flooded by fresh water following heavy rains. A permanent high water table fluctuates somewhat with the tides, but is usually at a depth of less than 40 inches. This soil is rarely dry below a depth of about 10 inches, and following inundation by high tides or heavy rains, the soil is saturated to the surface or covered by water for periods of several days to several weeks. Salinity varies according to length of time since the last flooding by salt water. Normally most pedons are nonsaline.

This soil occupies a position from 3 feet to about 12 feet above sea level. Areas range from 10 to 450 acres. Slopes range from 0 to 1 percent.

The surface layer is light brownish gray, moderately alkaline fine sand about 5 inches thick. The underlying material, to a depth of 14 inches, is white, moderately alkaline fine sand that contains brownish mottles and streaks. To a depth of 60 inches, it is white, neutral fine sand that has brownish mottles.

Mustang fine sand has very low available water capacity and rapid permeability above the water table. Surface runoff is very slow.

Included with this soil in mapping are small areas of similar soils that have a loamy fine sand surface layer. Also included are small areas of Beaches, small areas of Psammets that make up the active coastal dunes, and small areas of Barrada, Tatton, Dianola, Dietrich, Galveston, Falfurrias, and Nueces soils. Inclusions make up less than 20 percent of any one mapped area.

This soil is mainly used for range, and potential is low for growing climax range vegetation. Wetness, flooding, and a high water table are limitations that are difficult to overcome. A system of controlled grazing and proper stocking rates helps keep a good vegetative cover on the surface and maintains productivity. Potential is only medium for wetland and rangeland wildlife habitat.

Potential is low for urban uses and recreation. Flooding, wetness, high corrosivity to uncoated steel, and the sandy surface layer are the main limitations.

This soil is in capability subclass Vlw; Low Coastal Sand range site.

**Na—Narta fine sandy loam.** This is a deep, nearly level, somewhat poorly drained soil. It is on slightly concave low coastal plains, mostly in broad irregular shaped areas adjacent to and above the coastal lowlands, but below the inland portion of the mainland. Some areas of this soil are subject to periodic flooding by salt water during high tides caused by storms. A perched water table saturates the soil to the surface for extended periods during the spring and fall seasons during most years. Areas of this soil range from 10 to 1,100 acres. Slopes range from 0 to 1 percent.

The surface layer is gray, moderately alkaline, moderately saline fine sandy loam about 8 inches thick. Below that, to a depth of 14 inches, is very dark gray, moderately alkaline, extremely saline clay that contains a few

## San Patricio and Aransas Counties, Texas

### Mu—Mustang fine sand

#### Map Unit Setting

*Elevation:* 0 to 10 feet  
*Mean annual precipitation:* 26 to 48 inches  
*Mean annual air temperature:* 70 to 73 degrees F  
*Frost-free period:* 280 to 320 days

#### Map Unit Composition

*Mustang and similar soils:* 80 percent  
*Minor components:* 20 percent

#### Description of Mustang

##### Setting

*Landform:* Depressions on barrier flats  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Linear, concave  
*Across-slope shape:* Linear, concave  
*Parent material:* Sandy eolian and storm washover sediments of  
holocene age

##### Properties and qualities

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat):* High to  
very high (5.95 to 19.98 in/hr)  
*Depth to water table:* About 0 to 6 inches  
*Frequency of flooding:* Frequent  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 15 percent  
*Maximum salinity:* Nonsaline to slightly saline (0.0 to 8.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 8.0  
*Available water capacity:* Very low (about 2.4 inches)

##### Interpretive groups

*Land capability (nonirrigated):* 6w  
*Ecological site:* Low Coastal Sand 25-35" PZ (R150BY650TX)

##### Typical profile

*0 to 5 inches:* Fine sand  
*5 to 60 inches:* Fine sand

#### Minor Components

##### Barrada

*Percent of map unit:* 5 percent  
*Landform:* Tidal flats

##### Dianola

*Percent of map unit:* 5 percent



*Landform:* Flood plains

**Dietrich**

*Percent of map unit:* 5 percent

*Landform:* Tidal flats

**Unnamed, minor components**

*Percent of map unit:* 5 percent

## Data Source Information

Soil Survey Area: San Patricio and Aransas Counties, Texas

Survey Area Data: Version 6, Oct 27, 2009



## San Patricio and Aransas Counties, Texas

### GM—Galveston-Mustang association

#### Map Unit Setting

*Elevation:* 0 to 30 feet

*Mean annual precipitation:* 26 to 55 inches

*Mean annual air temperature:* 70 to 73 degrees F

*Frost-free period:* 280 to 320 days

#### Map Unit Composition

*Galveston and similar soils:* 55 percent

*Mustang and similar soils:* 31 percent

*Minor components:* 14 percent

#### Description of Galveston

##### Setting

*Landform:* Dune fields, foredunes

*Landform position (three-dimensional):* Rise

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Sandy eolian deposits

##### Properties and qualities

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Somewhat excessively drained

*Capacity of the most limiting layer to transmit water (Ksat):* High to very high (5.95 to 19.98 in/hr)

*Depth to water table:* About 36 to 72 inches

*Frequency of flooding:* Occasional

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 10 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 4.0

*Available water capacity:* Low (about 4.8 inches)

##### Interpretive groups

*Land capability (nonirrigated):* 6e

*Ecological site:* Coastal Sand 25-35" PZ (R150BY648TX)

##### Typical profile

*0 to 4 inches:* Fine sand

*4 to 72 inches:* Fine sand

#### Description of Mustang

##### Setting

*Landform:* Depressions on barrier flats

*Down-slope shape:* Linear, concave

*Across-slope shape:* Linear, concave



*Parent material:* Sandy eolian and storm washover sediments of holocene age

**Properties and qualities**

*Slope:* 0 to 1 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Poorly drained

*Capacity of the most limiting layer to transmit water (Ksat):* High to very high (5.95 to 19.98 in/hr)

*Depth to water table:* About 0 to 6 inches

*Frequency of flooding:* Frequent

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 15 percent

*Maximum salinity:* Nonsaline to slightly saline (0.0 to 8.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 8.0

*Available water capacity:* Very low (about 2.4 inches)

**Interpretive groups**

*Land capability (nonirrigated):* 6w

*Ecological site:* Low Coastal Sand 25-35" PZ (R150BY650TX)

**Typical profile**

*0 to 5 inches:* Fine sand

*5 to 60 inches:* Fine sand

**Minor Components**

**Barrada**

*Percent of map unit:* 6 percent

*Landform:* Tidal flats

**Dianola**

*Percent of map unit:* 6 percent

*Landform:* Flood plains

**Unnamed, minor components**

*Percent of map unit:* 2 percent

## Data Source Information

Soil Survey Area: San Patricio and Aransas Counties, Texas

Survey Area Data: Version 6, Oct 27, 2009



## Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*Rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

*Liquid limit* and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.



**References:**

- American Association of State Highway and Transportation Officials (AASHTO).  
2004. Standard specifications for transportation materials and methods of sampling  
and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification  
of soils for engineering purposes. ASTM Standard D2487-00.



## Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk '\*' denotes the representative texture; other possible textures follow the dash.

Map unit symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	<i>In</i>				Pct	Pct					Pct	
GM—Galveston-Mustang association												
Galveston	0-4	*Fine sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	96-100	65-90	2-20	0-30	NP-3
	4-72	*Fine sand, Sand	SP-SM, SP	A-2-4, A-3	0	0	100	96-100	65-90	2-10	0-30	NP-3
Mustang	0-5	*Fine sand	SW-SM, SP, SP-SM	A-2-4, A-3	0	0-3	85-100	80-100	60-80	2-12	0-30	NP-3
	5-60	*Fine sand, Sand	SW-SM, SP, SP-SM	A-2-4, A-3	0	0-3	85-100	80-100	60-80	2-12	0-30	NP-3
Barrada	—	—	—	—	—	—	—	—	—	—	—	—
Dianola	—	—	—	—	—	—	—	—	—	—	—	—
Unnamed, minor components	—	—	—	—	—	—	—	—	—	—	—	—



Engineering Properties— San Patricio and Aransas Counties, Texas												
Map unit symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	<i>In</i>				Pct	Pct					Pct	
Mu—Mustang fine sand												
Mustang	0-5	*Fine sand	SP, SP-SM, SW-SM	A-2-4, A-3	0	0-3	85-100	80-100	60-80	2-12	0-30	NP-3
	5-60	*Fine sand, Sand	SP, SP-SM, SW-SM	A-2-4, A-3	0	0-3	85-100	80-100	60-80	2-12	0-30	NP-3
Barrada	—	—	—	—	—	—	—	—	—	—	—	—
Dianola	—	—	—	—	—	—	—	—	—	—	—	—
Dietrich	—	—	—	—	—	—	—	—	—	—	—	—
Unnamed, minor components	—	—	—	—	—	—	—	—	—	—	—	—

## Data Source Information

Soil Survey Area: San Patricio and Aransas Counties, Texas  
 Survey Area Data: Version 6, Oct 27, 2009



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

8/4/2011  
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## Rangeland Productivity and Plant Composition

In areas that have similar climate and topography, differences in the kind and amount of rangeland or forest understory vegetation are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

This table shows, for each soil that supports vegetation suitable for grazing, the ecological site; the total annual production of vegetation in favorable, normal, and unfavorable years; the characteristic vegetation; and the average percentage of each species. An explanation of the column headings in the table follows.

An *ecological site* is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of the site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service (NRCS).

*Total dry-weight production* is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

*Characteristic vegetation* (the grasses, forbs, and shrubs that make up most of the potential natural plant community on each soil) is listed by common name. Under *rangeland composition*, the expected percentage of the total annual production is given for each species making up the characteristic vegetation. The amount that can be used as forage depends on the kinds of grazing animals and on the grazing season.

Range management requires knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index.

Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in the "National Range and Pasture Handbook," which is available in local offices of NRCS or on the Internet.



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The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

Reference:

United States Department of Agriculture, Natural Resources Conservation Service,  
[National range and pasture handbook](#).

## Report—Rangeland Productivity and Plant Composition

Rangeland Productivity and Plant Composition— San Patricio and Aransas Counties, Texas						
Map unit symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/ac	Lb/ac	Lb/ac		Pct
GM—Galveston-Mustang association						
Galveston	Coastal Sand 25-35" Pz	3,500	2,000	1,000	Bitter panicgrass	35
					Miscellaneous perennial forbs	30
					Marshhay cordgrass	20
					Seaoats	10
					Inland saltgrass	5
Mustang	Low Coastal Sand 25-35" Pz	4,000	3,000	2,000	Marshhay cordgrass	30
					Gulfdune paspalum	20
					Miscellaneous perennial forbs	15
					Red lovegrass	10
					Perennial grasslikes	5
					Seashore dropseed	5
					Bushy seaoxeye	5
					Shoregrass	5
					Seacoast bluestem	5
Mu—Mustang fine sand						
Mustang	Low Coastal Sand 25-35" Pz	4,000	3,000	2,000	Marshhay cordgrass	30
					Gulfdune paspalum	20
					Miscellaneous perennial forbs	15
					Red lovegrass	10
					Perennial grasslikes	5



Rangeland Productivity and Plant Composition— San Patricio and Aransas Counties, Texas						
Map unit symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/ac	Lb/ac	Lb/ac		Pct
					Shoregrass	5
					Seacoast bluestem	5
					Seashore dropseed	5
					Bushy seaoxeye	5

## Data Source Information

Soil Survey Area: San Patricio and Aransas Counties, Texas

Survey Area Data: Version 6, Oct 27, 2009



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

8/4/2011  
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## **Attachment 3-E**

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### **Laboratory Analytical Data – Soil Samples**

## ANALYTICAL REPORT

Job Number: 560-27063-1

SDG Number:

Job Description: Falcon Refinery, Ingleside

For:

TRC Environmental Corporation  
505 East Huntland Dr  
Suite 250  
Austin, TX 78752

Attention: Mr. Chris Mansuri



Approved for release.  
Erica Padilla  
Project Manager I  
7/28/2011 5:54 PM

Erica Padilla  
Project Manager I  
[erica.padilla@testamericainc.com](mailto:erica.padilla@testamericainc.com)  
07/28/2011

cc: Mr. Stephen Halasz

The test results entered in this report meet all NELAC requirements for accredited parameters. Any exceptions to NELAC requirements are noted in the report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. TestAmerica Corpus Christi Certifications and Approvals: NELAC TX T104704210-TX, NELAC KS E-10362, Oklahoma 9968, USDA Soil Permit P330.

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi 1733 N. Padre Island Drive, Corpus Christi, TX 78408

Tel (361) 289-2673 Fax (361) 289-2471 [www.testamericainc.com](http://www.testamericainc.com)



**TestAmerica Corpus Christi  
TRRP Data Package Cover Page**

Job Number: 560-27063-1  
Project Name/Number: Falcon Refinery,  
Ingleside

This Data Package consists of:

This signature page, the laboratory review checklist, and the following Reportable Data:

- R1 Field Chain-of-Custody Form
- R2 Sample Identification Cross-reference;
- R3 Test Reports (Analytical Data Sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC Chapter 5
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate Recovery Data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- R5 Test Reports/Summary Forms for Blank Samples;
- R6 Test Reports/Summary Forms for Laboratory Control Samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - d) The laboratory's LCS QC limits
- R7 Test Reports for Matrix Spike/Matrix Spike Duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked sample,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicates (if applicable) recovery and precision, including:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limit (MQL) and detectability check sample results for each analyte for each method and matrix;
- R10 Other problems or anomalies

The exception report for each "No" or "Not Reviewed (NR)" item in the Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: "I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory is NELAC accredited under Texas laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data has been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm, to the best of my knowledge, that all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld."

Erica H. Padilla  
Name (printed)

  
Signature

July 28, 2011  
Date

Project Manager  
Official Title (printed)

## Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: TestAmerica-Houston		LRC Date: 07/28/11				
Project Name: Falcon Refinery, Ingleside		Laboratory Job Number: 560-27063				
Reviewer Name: TM		Prep Batch Number(s): 600-58719-Nitrogen Kjeldahl				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>

<b>R1</b>	OI	<b>Chain-of-custody (C-O-C)</b>				
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X			
		Were all departures from standard conditions described in an exception report?		X		
<b>R2</b>	OI	<b>Sample and quality control (QC) identification</b>				
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X			
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X			
<b>R3</b>	OI	<b>Test reports</b>				
		Were all samples prepared and analyzed within holding times?	X			
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X			
		Were calculations checked by a peer or supervisor?	X			
		Were all analyte identifications checked by a peer or supervisor?	X			
		Were sample quantitation limits reported for all analytes not detected?	X			
		Were all results for soil and sediment samples reported on a dry weight basis?	X			
		Were % moisture (or solids) reported for all soil and sediment samples?	X			
		If required for the project, TICs reported?		X		
<b>R4</b>	O	<b>Surrogate recovery data</b>				
		Were surrogates added prior to extraction?		X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X		
<b>R5</b>	OI	<b>Test reports/summary forms for blank samples</b>				
		Were appropriate type(s) of blanks analyzed?	X			
		Were blanks analyzed at the appropriate frequency?	X			
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X			
		Were blank concentrations < MQL?	X			
<b>R6</b>	OI	<b>Laboratory control samples (LCS):</b>				
		Were all COCs included in the LCS?	X			
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X			
		Were LCSs analyzed at the required frequency?	X			
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X			
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	X			
		Was the LCSD RPD within QC limits?		X		
<b>R7</b>	OI	<b>Matrix spike (MS) and matrix spike duplicate (MSD) data</b>				
		Were the project/method specified analytes included in the MS and MSD?	X			
		Were MS/MSD analyzed at the appropriate frequency?	X			
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X		1
		Were MS/MSD RPDs within laboratory QC limits?			X	
<b>R8</b>	OI	<b>Analytical duplicate data</b>				
		Were appropriate analytical duplicates analyzed for each matrix?	X			
		Were analytical duplicates analyzed at the appropriate frequency?	X			
		Were RPDs or relative standard deviations within the laboratory QC limits?	X			
<b>R9</b>	OI	<b>Method quantitation limits (MQLs):</b>				
		Are the MQLs for each method analyte included in the laboratory data package?	X			
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X			
		Are unadjusted MQLs included in the laboratory data package?	X			
<b>R10</b>	OI	<b>Other problems/anomalies</b>				
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X			
		Were all necessary corrective actions performed for the reported data?	X			
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X			

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

<b>Appendix A (cont'd): Laboratory Review Checklist: Reportable Data</b>						
Laboratory Name: TestAmerica-Houston		LRC Date: 07/28/11				
Project Name: Falcon Refinery, Ingleside		Laboratory Job Number: 560-27063				
Reviewer Name: TM		Prep Batch Number(s): 600-58719-Nitrogen Kjeldahl				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>
S1	OI	<b>Initial calibration (ICAL)</b>				ER# <sup>5</sup>
		Were response factors and/or relative response factors for each analyte within QC limits?		X		
		Were percent RSDs or correlation coefficient criteria met?	X			
		Was the number of standards recommended in the method used for all analytes?	X			
		Were all points generated between the lowest and highest standard used to calculate the curve?	X			
		Are ICAL data available for all instruments used?	X			
		Has the initial calibration curve been verified using an appropriate second source standard?	X			
S2	OI	<b>Initial and continuing calibration verification (ICCV and CCV) and continuing calibration</b>				
		Was the CCV analyzed at the method-required frequency?	X			
		Were percent differences for each analyte within the method-required QC limits?	X			
		Was the ICAL curve verified for each analyte?	X			
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X			
S3	O	<b>Mass spectral tuning:</b>				
		Was the appropriate compound for the method used for tuning?		X		
		Were ion abundance data within the method-required QC limits?		X		
S4	O	<b>Internal standards (IS):</b>				
		Were IS area counts and retention times within the method-required QC limits?		X		
S5	OI	<b>Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section</b>				
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X			
		Were data associated with manual integrations flagged on the raw data?		X		
S6	O	<b>Dual column confirmation</b>				
		Did dual column confirmation results meet the method-required QC?		X		
S7	O	<b>Tentatively identified compounds (TICs):</b>				
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?		X		
S8	I	<b>Interference Check Sample (ICS) results:</b>				
		Were percent recoveries within method QC limits?		X		
S9	I	<b>Serial dilutions, post digestion spikes, and method of standard additions</b>				
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X		
S10	OI	<b>Method detection limit (MDL) studies</b>				
		Was a MDL study performed for each reported analyte?	X			
		Is the MDL either adjusted or supported by the analysis of DCSS?	X			
S11	OI	<b>Proficiency test reports:</b>				
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X			
S12	OI	<b>Standards documentation</b>				
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X			
S13	OI	<b>Compound/analyte identification procedures</b>				
		Are the procedures for compound/analyte identification documented?	X			
S14	OI	<b>Demonstration of analyst competency (DOC)</b>				
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X			
		Is documentation of the analyst's competency up-to-date and on file?	X			
S15	OI	<b>Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)</b>				
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X			
S16	OI	<b>Laboratory standard operating procedures (SOPs):</b>				
		Are laboratory SOPs current and on file for each method performed?	X			

- 1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- 2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
- 3 NA = Not applicable.
- 4 NR = Not Reviewed.
- 5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

<b>Appendix A (cont'd): Laboratory Review Checklist: Exception Reports</b>	
Laboratory Name:	TestAmerica-Houston
Project Name:	Falcon Refinery, Ingleside
Reviewer Name:	TM
ER # <sup>1</sup>	DESCRIPTION
1	The Nitrogen, Kjeldahl recovery in sample 560-27063-1 MS was below the control limit. Method performance is demonstrated by an acceptable LCS recovery.

ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

LRC Date:	July 28, 2011	Laboratory Job Number:	560-27063-1			
Reviewer Name:	Erica H. Padilla	Project Name/Number:	Falcon Refinery, Ingleside			

# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	<b>CHAIN-OF-CUSTODY (C.O.C.)</b>					
		1) Did all samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		2) Were all departures from standard conditions described in an exception report or case narrative?		X			
R2	OI	<b>SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION</b>					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	<b>TEST REPORTS</b>					
		1) Were all samples prepared and analyzed within holding time?	X				
		2) Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		3) Were calculations checked by a peer or supervisor?	X				
		4) Were all analyte identifications checked by a peer or supervisor?	X				
		5) Were sample quantitation limits reported for all analytes not detected?	X				
		6) Were all results for soil and sediment samples reported on a dry weight basis?	X				
		7) Were % moisture (or solids) reported for all soil and sediment samples?	X				
		8) Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035		X			
		9) If required for the project, TICs reported?		X			
R4	O	<b>SURROGATE RECOVERY DATA</b>					
		1) Were surrogates added prior to extraction?	X				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	<b>TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES</b>					
		1) Were appropriate type(s) of blanks analyzed?	X				
		2) Were blanks analyzed at the appropriate frequency?	X				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		4) Were blank concentrations <MQL?	X				
R6	OI	<b>LABORATORY CONTROL SAMPLES (LCS)</b>					
		1) Were all COCs included in the LCS?	X				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		3) Were LCSs analyzed at the required frequency?	X				
		4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		6) Was the LCSD RPD within QC limits?	X				
R7	OI	<b>MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA</b>					
		1) Were the project/method specified analytes included in the MS and MSD?	X				
		2) Were MS/MSD analyzed at the appropriate frequency?	X				1
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				2
		4) Were MS/MSD RPDs within laboratory QC limits?	X				2
R8	OI	<b>ANALYTICAL DUPLICATE DATA</b>					
		1) Were appropriate analytical duplicates analyzed for each matrix?					
		2) Were analytical duplicates analyzed at the appropriate frequency?	X				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	<b>METHOD QUANTITATION LIMITS (MQLs)</b>					
		1) Are the MQLs for each method analyte listed and included in the laboratory data package?	X				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		3) Are unadjusted MQLs and DCS included in the laboratory data package?	X				3

LRC Date: July 28, 2011	Laboratory Job Number: 560-27063-1
Reviewer Name: Erica H. Padilla	Project Name/Number: Falcon Refinery, Ingleside

# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R10	OI	<b>OTHER PROBLEMS/ANOMALIES</b>					
		1) Are all known problems/anomalies/special conditions noted in this LRC, ER, or case narrative?	X				4
		2) Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		3) Is the laboratory NELAC-accredited under Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
S1	OI	<b>INITIAL CALIBRATION (ICAL)</b>					
		1) Were response factors and/or relative response factors for each analyte within the QC limits?	X				
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	<b>INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICV and CCV) AND CONTINUING CALIBRATION BLANK (CCB)</b>					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analytes within the method-required QC limits?	X				
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the inorganic CCB <MDL?	X				
S3	O	<b>MASS SPECTRAL TUNING</b>					
		1) Was the appropriate compound for the method used for tuning?	X				
		2) Were ion abundance data within the method-required QC limits?	X				
S4	O	<b>INTERNAL STANDARDS (IS)</b>					
		1) Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	<b>RAW DATA (NELAC SECTION 5.5.10)</b>					
		1) Were the raw data (e.g. chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				
S6	O	<b>DUAL COLUMN CONFIRMATION</b>					
		1) Did dual column confirmation results meet the method-required QC?				X	
S7	O	<b>TENTATIVELY IDENTIFIED COMPOUNDS (TICs)</b>					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X	
S8	I	<b>INTERFERENCE CHECK SAMPLE (ICS) RESULTS</b>					
		1) Were percent recoveries within method QC limits?		X			
S9	I	<b>SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD ADDITIONS</b>					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		5
S10	OI	<b>METHOD DETECTION LIMIT (MDL) STUDIES</b>					
		1) Was a MDL study performed for each reported analyte?		X			
		2) Is the MDL either adjusted or supported by the analysis of DCS?		X			
S11	OI	<b>PROFICIENCY TEST REPORTS</b>					
		1) Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X			
S12	OI	<b>STANDARDS DOCUMENTATION</b>					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?		X			
S13	OI	<b>COMPOUND/ANALYTE IDENTIFICATION PROCEDURES</b>					
		1) Are the procedures for compound/analyte identification documented?		X			
S14	OI	<b>DEMONSTRATION OF ANALYST COMPETENCY (DOC)</b>					
		1) Was DOC conducted consistent with NELAC Chapter 5?		X			
		2) Is documentation of the analyst's competency up-to-date and on file?		X			

LRC Date: July 28, 2011	Laboratory Job Number: 560-27063-1
Reviewer Name: Erica H. Padilla	Project Name/Number: Falcon Refinery, Ingleside

# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
S15	OI	<b>VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS (NELAC CHAPTER 5)</b>					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	<b>LABORATORY STANDARD OPERATING PROCEDURES (SOPs)</b>					
		1) Are laboratory SOPs current and on file for each method performed?	X				

**EXCEPTION REPORTS**

ER# <sup>5</sup>	DESCRIPTION
1	Another client's sample was selected for the MS/MSD for Nitrate/Nitrite batch 61854.
2	Method 8260B (QC Batch 560-61803): The percent recovery and/or RPD for various analytes were outside acceptable limits in the MS/MSD pair associated with sample 560-27063-1. The LCS was within acceptable limits. Therefore, data are reported.  Method 6010B (QC Batch 560-62161): The percent recovery for barium was outside acceptable limits in the MS/MSD pair associated with sample 560-27063-1. The LCS was within acceptable limits. Therefore, data are reported.
3	Method 9056 (QC Batch 560-61854): Due to the nature of the sample matrix, samples 560-27063-1, -2, -3 were diluted for nitrate and nitrite analysis. Elevated reporting limits are provided.
4	Please be aware that MDL and DCS do not apply to conductivity, SAR, pH, percent moisture, or total nitrogen.
5	Method 6010B (QC Batch 560-62161): The serial dilution performed on sample 560-27063-1 was outside acceptable limits (10%) for barium at 49%.

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable)

3 NA = Not applicable

4 NR = Not reviewed

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked)

## METHOD SUMMARY

Client: TRC Environmental Corporation

Job Number: 560-27063-1

Description		Lab Location	Method	Preparation Method
Matrix	Solid			
Volatile Organic Compounds (GC/MS)	Purge and Trap	TAL CC	SW846 8260B	SW846 5030B
Semivolatile Organic Compounds (GC/MS)	Ultrasonic Extraction	TAL CC	SW846 8270C	SW846 3550B
Sodium Adsorption Ratio	Preparation, Sodium Absorption Ratio	TAL CC	USDA 20B	USDA 20B
Metals (ICP)	Preparation, Metals	TAL CC	SW846 6010B	SW846 3050B
Mercury (CVAA)	Preparation, Mercury	TAL CC	SW846 7471A	SW846 7471A
pH		TAL CC	SW846 9045D	
Anions, Ion Chromatography	Deionized Water Leaching Procedure	TAL CC	SW846 9056	ASTM DI Leach
Percent Moisture		TAL CC	EPA Moisture	
Conductivity, Specific Conductance	Deionized Water Leaching Procedure	TAL CC	SM SM 2510B	ASTM DI Leach
Nitrogen, Total		TAL CC	EPA Total Nitrogen	
Nitrogen, Total Kjeldahl		TAL HOU	MCAWW 351.2	

**Lab References:**

TAL CC = TestAmerica Corpus Christi

TAL HOU = TestAmerica Houston

**Method References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

USDA = "USDA Agriculture Handbook 60, section 20B".

## METHOD / ANALYST SUMMARY

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

Method	Analyst	Analyst ID
SW846 8260B	Theriault, Ray	RT
SW846 8270C	Fisher, Gayland E	GEF
USDA 20B	Mathewson, John E	JEM
SW846 6010B	Mathewson, John E	JEM
SW846 7471A	Mathewson, John E	JEM
MCAWW 351.2	Cemer, Sejfudin	SC
SW846 9045D	Wade, Alex	AW
SW846 9056	Zwierzykowski, Hanna M	HMZ
EPA Moisture	DeLong, Maverick	MD
SM SM 2510B	Wade, Alex	AW
EPA Total Nitrogen	Zwierzykowski, Hanna M	HMZ

## SAMPLE SUMMARY

Client: TRC Environmental Corporation

Job Number: 560-27063-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
560-27063-1	Comp-A-0-6	Solid	07/14/2011 1000	07/14/2011 1510
560-27063-2	Comp-B-6-18	Solid	07/14/2011 1030	07/14/2011 1510
560-27063-3	Comp-C-18-30	Solid	07/14/2011 1100	07/14/2011 1510

# **SAMPLE RESULTS**

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcoln Refinery, Ingleside  
SDG Number: Falcoln Refinery, Ingleside

**Client Sample ID:** Comp-A-0-6

Lab Sample ID: 560-27063-1  
Client Matrix: Solid

Date Sampled: 07/14/2011 10:00  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
<b>Method: USDA 20B,Solid,Soluble</b> Preparation, Sodium Absorption Ratio		Complete							62112	07/21/2011 10:00		JEM
<b>Method: SW846 3050B,Solid</b> Preparation, Metals		Complete							62099	07/22/2011 10:00		JH
<b>Method: SW846 3550B,Solid</b> Ultrasonic Extraction		Complete							61801	07/15/2011 08:31		RA
<b>Method: SW846 5030B,Solid</b> Purge and Trap		Complete								07/15/2011 15:30		
<b>Method: SW846 7471A,Solid</b> Preparation, Mercury		Complete							62089	07/21/2011 08:22		JEM
<b>Method: SM SM 2510B,Solid,Soluble</b> Specific Conductance	STL00244	2630			1.00	1.00	1.00	umhos/cm	61826	07/15/2011 12:45	1	AW
<b>Method: SW846 9056,Solid,Soluble</b> Nitrate as N	14797-55-8	14.5	U		0.556	5.00	14.5	mg/Kg	61854	07/15/2011 20:37	25	HMZ
Nitrite as N	14797-65-0	52.2	U		2.00	5.00	52.2	mg/Kg	61854	07/15/2011 20:37	25	HMZ
<b>Method: USDA 20B,Solid,Soluble</b> Ca	7440-70-2	49.7						mg/L	62200	07/26/2011 08:35	1	JEM
Mg	7439-95-4	36.7						mg/L	62200	07/26/2011 08:35	1	JEM
Na	7440-23-5	94.8						mg/L	62200	07/26/2011 08:35	1	JEM
Sodium Adsorption Ratio	STL00047	2.50						NONE	62200	07/26/2011 08:35	1	JEM
<b>Method: EPA Moisture,Solid</b> Percent Moisture	STL00177	4.4			0.010	0.010	0.010	%	61832	07/15/2011 14:00	1	MD
Percent Solids	STL00234	96			0.010	0.010	0.010	%	61832	07/15/2011 14:00	1	MD
<b>Method: EPA Total Nitrogen,Solid</b> Nitrogen, Total	STL00155	815			5.00	5.00	5.00	mg/Kg	62348	07/28/2011 16:58	1	HMZ
<b>Method: MCAWW 351.2,Solid</b> Nitrogen, Kjeldahl	STL00296	815			35.2	40.0	36.8	mg/Kg	58719	07/18/2011 16:09	1	SC
<b>Method: SW846 6010B,Solid</b>										Dry Weight Corrected?:		Y

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcoln Refinery, Ingleside  
SDG Number: Falcoln Refinery, Ingleside

**Client Sample ID:** Comp-A-0-6

Lab Sample ID: 560-27063-1

Client Matrix: Solid

Date Sampled: 07/14/2011 10:00  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
Arsenic	7440-38-2	0.752	J		0.145	2.00	0.128	mg/Kg	62161	07/22/2011 17:06	1	JEM
Barium	7440-39-3	96.9			0.189	1.00	0.166	mg/Kg	62161	07/22/2011 17:06	1	JEM
Cadmium	7440-43-9	0.0840	J		0.0360	0.500	0.0317	mg/Kg	62161	07/22/2011 17:06	1	JEM
Chromium	7440-47-3	1.73			0.134	1.00	0.118	mg/Kg	62161	07/22/2011 17:06	1	JEM
Lead	7439-92-1	4.84			0.152	0.500	0.134	mg/Kg	62161	07/22/2011 17:06	1	JEM
Selenium	7782-49-2	0.174	U		0.198	1.00	0.174	mg/Kg	62161	07/22/2011 17:06	1	JEM
Silver	7440-22-4	0.0968	U		0.110	0.500	0.0968	mg/Kg	62161	07/22/2011 17:06	1	JEM
<b>Method: SW846 7471A,Solid</b>												Dry Weight Corrected?: Y
Mercury	7439-97-6	0.0101	U		0.0180	0.200	0.0101	mg/Kg	62082	07/21/2011 15:13	1	JEM
<b>Method: SW846 8260B,Solid</b>												Dry Weight Corrected?: Y
1,1,1-Trichloroethane	71-55-6	0.000646	U		0.000700	0.00500	0.000646	mg/Kg	61803	07/15/2011 15:30	1	RT
1,1,2,2-Tetrachloroethane	79-34-5	0.000351	U		0.000380	0.00500	0.000351	mg/Kg	61803	07/15/2011 15:30	1	RT
1,1,2-Trichloro-1,2,2-trifluoro ethane	76-13-1	0.000618	U		0.000670	0.00500	0.000618	mg/Kg	61803	07/15/2011 15:30	1	RT
1,1,2-Trichloroethane	79-00-5	0.000461	U		0.000500	0.00500	0.000461	mg/Kg	61803	07/15/2011 15:30	1	RT
1,1-Dichloroethane	75-34-3	0.000544	U		0.000590	0.00500	0.000544	mg/Kg	61803	07/15/2011 15:30	1	RT
1,1-Dichloroethene	75-35-4	0.000175	U		0.000190	0.00500	0.000175	mg/Kg	61803	07/15/2011 15:30	1	RT
1,1-Dichloropropene	563-58-6	0.000480	U		0.000520	0.00500	0.000480	mg/Kg	61803	07/15/2011 15:30	1	RT
1,2,3-Trichlorobenzene	87-61-6	0.000406	U		0.000440	0.00500	0.000406	mg/Kg	61803	07/15/2011 15:30	1	RT
1,2,3-Trichloropropane	96-18-4	0.000701	U		0.000760	0.00500	0.000701	mg/Kg	61803	07/15/2011 15:30	1	RT
1,2,4-Trimethylbenzene	95-63-6	0.000185	U		0.000200	0.00500	0.000185	mg/Kg	61803	07/15/2011 15:30	1	RT
1,2-Dichloroethane	107-06-2	0.000480	U		0.000520	0.00500	0.000480	mg/Kg	61803	07/15/2011 15:30	1	RT
1,2-Dichloropropane	78-87-5	0.000138	U		0.000150	0.00500	0.000138	mg/Kg	61803	07/15/2011 15:30	1	RT
1,3,5-Trimethylbenzene	108-67-8	0.000194	U		0.000210	0.00500	0.000194	mg/Kg	61803	07/15/2011 15:30	1	RT
1,3-Dichloropropane	142-28-9	0.000221	U		0.000240	0.00500	0.000221	mg/Kg	61803	07/15/2011 15:30	1	RT
1,4-Dioxane	123-91-1	0.0175	U		0.0190	0.100	0.0175	mg/Kg	61803	07/15/2011 15:30	1	RT
2,2-Dichloropropane	594-20-7	0.000775	U		0.000840	0.00500	0.000775	mg/Kg	61803	07/15/2011 15:30	1	RT
2-Butanone (MEK)	78-93-3	0.000923	U		0.00100	0.00500	0.000923	mg/Kg	61803	07/15/2011 15:30	1	RT
2-Hexanone	591-78-6	0.00111	U		0.00120	0.00500	0.00111	mg/Kg	61803	07/15/2011 15:30	1	RT
2-Nitropropane	79-46-9	0.000480	U		0.000520	0.00500	0.000480	mg/Kg	61803	07/15/2011 15:30	1	RT
4-Methyl-2-pentanone (MIBK)	108-10-1	0.000858	U		0.000930	0.00500	0.000858	mg/Kg	61803	07/15/2011 15:30	1	RT
Acetone	67-64-1	0.0136	J		0.00720	0.0500	0.00664	mg/Kg	61803	07/15/2011 15:30	1	RT
Acetonitrile	75-05-8	0.0341	U		0.0370	0.0500	0.0341	mg/Kg	61803	07/15/2011 15:30	1	RT
Benzene	71-43-2	0.000212	U		0.000230	0.00500	0.000212	mg/Kg	61803	07/15/2011 15:30	1	RT

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcoln Refinery, Ingleside  
SDG Number: Falcoln Refinery, Ingleside

**Client Sample ID:** Comp-A-0-6

Lab Sample ID: 560-27063-1

Client Matrix: Solid

Date Sampled: 07/14/2011 10:00  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
Bromoform	75-25-2	0.000471	U		0.000510	0.00500	0.000471	mg/Kg	61803	07/15/2011 15:30	1	RT
Bromomethane	74-83-9	0.00101	U		0.00110	0.00500	0.00101	mg/Kg	61803	07/15/2011 15:30	1	RT
Carbon disulfide	75-15-0	0.000923	U		0.00100	0.00500	0.000923	mg/Kg	61803	07/15/2011 15:30	1	RT
Carbon tetrachloride	56-23-5	0.000471	U		0.000510	0.00500	0.000471	mg/Kg	61803	07/15/2011 15:30	1	RT
Chlorobenzene	108-90-7	0.000212	U		0.000230	0.00500	0.000212	mg/Kg	61803	07/15/2011 15:30	1	RT
Chlorodibromomethane	124-48-1	0.000590	U		0.000640	0.00500	0.000590	mg/Kg	61803	07/15/2011 15:30	1	RT
Chloroethane	75-00-3	0.000240	U		0.000260	0.00500	0.000240	mg/Kg	61803	07/15/2011 15:30	1	RT
Chloroform	67-66-3	0.000803	U		0.000870	0.00500	0.000803	mg/Kg	61803	07/15/2011 15:30	1	RT
Chloromethane	74-87-3	0.00111	U		0.00120	0.00500	0.00111	mg/Kg	61803	07/15/2011 15:30	1	RT
cis-1,2-Dichloroethene	156-59-2	0.000526	U		0.000570	0.00500	0.000526	mg/Kg	61803	07/15/2011 15:30	1	RT
cis-1,3-Dichloropropene	10061-01-5	0.000130	U		0.000141	0.00500	0.000130	mg/Kg	61803	07/15/2011 15:30	1	RT
Dibromomethane	74-95-3	0.000655	U		0.000710	0.00500	0.000655	mg/Kg	61803	07/15/2011 15:30	1	RT
Dichlorobromomethane	75-27-4	0.000175	U		0.000190	0.00500	0.000175	mg/Kg	61803	07/15/2011 15:30	1	RT
Dichlorodifluoromethane	75-71-8	0.000673	U		0.000730	0.00500	0.000673	mg/Kg	61803	07/15/2011 15:30	1	RT
Ethyl acetate	141-78-6	0.00111	U		0.00120	0.00500	0.00111	mg/Kg	61803	07/15/2011 15:30	1	RT
Ethyl ether	60-29-7	0.000157	U		0.000170	0.00500	0.000157	mg/Kg	61803	07/15/2011 15:30	1	RT
Ethyl methacrylate	97-63-2	0.000471	U		0.000510	0.00500	0.000471	mg/Kg	61803	07/15/2011 15:30	1	RT
Ethylbenzene	100-41-4	0.000203	U		0.000220	0.00500	0.000203	mg/Kg	61803	07/15/2011 15:30	1	RT
Ethylene Dibromide	106-93-4	0.000157	U		0.000170	0.00500	0.000157	mg/Kg	61803	07/15/2011 15:30	1	RT
Iodomethane	74-88-4	0.000738	U		0.000800	0.00500	0.000738	mg/Kg	61803	07/15/2011 15:30	1	RT
Methyl methacrylate	80-62-6	0.00101	U		0.00110	0.00500	0.00101	mg/Kg	61803	07/15/2011 15:30	1	RT
Methyl tert-butyl ether	1634-04-4	0.000563	U		0.000610	0.00500	0.000563	mg/Kg	61803	07/15/2011 15:30	1	RT
Methylene Chloride	75-09-2	0.00461	U		0.00500	0.0250	0.00461	mg/Kg	61803	07/15/2011 15:30	1	RT
Styrene	100-42-5	0.000185	U		0.000200	0.00500	0.000185	mg/Kg	61803	07/15/2011 15:30	1	RT
Tetrachloroethene	127-18-4	0.000683	U		0.000740	0.00500	0.000683	mg/Kg	61803	07/15/2011 15:30	1	RT
Toluene	108-88-3	0.000517	U		0.000560	0.00500	0.000517	mg/Kg	61803	07/15/2011 15:30	1	RT
trans-1,2-Dichloroethene	156-60-5	0.000461	U		0.000500	0.00500	0.000461	mg/Kg	61803	07/15/2011 15:30	1	RT
trans-1,3-Dichloropropene	10061-02-6	0.000480	U		0.000520	0.00500	0.000480	mg/Kg	61803	07/15/2011 15:30	1	RT
Trichloroethene	79-01-6	0.000258	U		0.000280	0.00500	0.000258	mg/Kg	61803	07/15/2011 15:30	1	RT
Trichlorofluoromethane	75-69-4	0.000461	U		0.000500	0.00500	0.000461	mg/Kg	61803	07/15/2011 15:30	1	RT
Vinyl acetate	108-05-4	0.00101	U		0.00110	0.00500	0.00101	mg/Kg	61803	07/15/2011 15:30	1	RT
Vinyl chloride	75-01-4	0.000554	U		0.000600	0.00500	0.000554	mg/Kg	61803	07/15/2011 15:30	1	RT
Xylenes, Total	1330-20-7	0.000332	U		0.000360	0.0150	0.000332	mg/Kg	61803	07/15/2011 15:30	1	RT

**Surrogates**

Test Method	CAS Number	QC	Result	True Value	% Rec.	QC Limits	Flag	Instrument	Prep Batch	Analysis Date/Time	D.F.	Analyst
1,2-Dichloroethane-d4 (Surr)	17060-07-0		0.0466	0.0461	101	70-152		VGCMS#3		07/15/2011 15:30	1	RT
4-Bromofluorobenzene (Surr)	460-00-4		0.0411	0.0461	89	61-130		VGCMS#3		07/15/2011 15:30	1	RT
Dibromofluoromethane (Surr)	1868-53-7		0.0427	0.0461	93	63-136		VGCMS#3		07/15/2011 15:30	1	RT
Toluene-d8 (Surr)	2037-26-5		0.0453	0.0461	98	69-139		VGCMS#3		07/15/2011 15:30	1	RT

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcoln Refinery, Ingleside  
SDG Number: Falcoln Refinery, Ingleside

**Client Sample ID:** Comp-A-0-6

Lab Sample ID: 560-27063-1  
Client Matrix: Solid

Date Sampled: 07/14/2011 10:00  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
<b>Method: SW846 8270C,Solid</b>												
1,2,4-Trichlorobenzene	120-82-1	0.0465	U		0.0457	0.330	0.0465	mg/Kg	62025	07/20/2011 18:58	1	GEF
1,2-Dichlorobenzene	95-50-1	0.0530	U		0.0521	0.330	0.0530	mg/Kg	62025	07/20/2011 18:58	1	GEF
1,3-Dichlorobenzene	541-73-1	0.0445	U		0.0438	0.330	0.0445	mg/Kg	62025	07/20/2011 18:58	1	GEF
1,4-Dichlorobenzene	106-46-7	0.0466	U		0.0458	0.330	0.0466	mg/Kg	62025	07/20/2011 18:58	1	GEF
2,4,5-Trichlorophenol	95-95-4	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
2,4,6-Trichlorophenol	88-06-2	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
2,4-Dichlorophenol	120-83-2	0.0232	U		0.0228	0.330	0.0232	mg/Kg	62025	07/20/2011 18:58	1	GEF
2,4-Dimethylphenol	105-67-9	0.0207	U		0.0204	0.330	0.0207	mg/Kg	62025	07/20/2011 18:58	1	GEF
2,4-Dinitrophenol	51-28-5	0.102	U		0.100	0.330	0.102	mg/Kg	62025	07/20/2011 18:58	1	GEF
2,4-Dinitrotoluene	121-14-2	0.0215	U		0.0211	0.330	0.0215	mg/Kg	62025	07/20/2011 18:58	1	GEF
2,6-Dinitrotoluene	606-20-2	0.0509	U		0.0500	0.330	0.0509	mg/Kg	62025	07/20/2011 18:58	1	GEF
2-Chloronaphthalene	91-58-7	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
2-Chlorophenol	95-57-8	0.0283	U		0.0278	0.330	0.0283	mg/Kg	62025	07/20/2011 18:58	1	GEF
2-Methylnaphthalene	91-57-6	0.0316	U		0.0311	0.330	0.0316	mg/Kg	62025	07/20/2011 18:58	1	GEF
2-Methylphenol	95-48-7	0.0336	U		0.0330	0.330	0.0336	mg/Kg	62025	07/20/2011 18:58	1	GEF
2-Nitroaniline	88-74-4	0.0226	U		0.0222	0.330	0.0226	mg/Kg	62025	07/20/2011 18:58	1	GEF
2-Nitrophenol	88-75-5	0.0173	U		0.0170	0.330	0.0173	mg/Kg	62025	07/20/2011 18:58	1	GEF
3 & 4 Methylphenol	15831-10-4	0.0509	U		0.0500	0.670	0.0509	mg/Kg	62025	07/20/2011 18:58	1	GEF
3,3'-Dichlorobenzidine	91-94-1	0.0509	U		0.0500	0.330	0.0509	mg/Kg	62025	07/20/2011 18:58	1	GEF
3-Nitroaniline	99-09-2	0.0509	U		0.0500	0.330	0.0509	mg/Kg	62025	07/20/2011 18:58	1	GEF
4,6-Dinitro-2-methylphenol	534-52-1	0.0509	U		0.0500	0.330	0.0509	mg/Kg	62025	07/20/2011 18:58	1	GEF
4-Bromophenyl phenyl ether	101-55-3	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
4-Chloro-3-methylphenol	59-50-7	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
4-Chloroaniline	106-47-8	0.0474	U		0.0466	0.330	0.0474	mg/Kg	62025	07/20/2011 18:58	1	GEF
4-Chlorophenyl phenyl ether	7005-72-3	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
4-Nitroaniline	100-01-6	0.0286	U		0.0281	0.330	0.0286	mg/Kg	62025	07/20/2011 18:58	1	GEF
4-Nitrophenol	100-02-7	0.0310	U		0.0305	0.330	0.0310	mg/Kg	62025	07/20/2011 18:58	1	GEF
Acenaphthene	83-32-9	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Acenaphthylene	208-96-8	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Anthracene	120-12-7	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Benzo[a]anthracene	56-55-3	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Benzo[a]pyrene	50-32-8	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Benzo[b]fluoranthene	205-99-2	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcon Refinery, Ingleside  
SDG Number: Falcon Refinery, Ingleside

**Client Sample ID:** Comp-A-0-6

Lab Sample ID: 560-27063-1

Client Matrix: Solid

Date Sampled: 07/14/2011 10:00  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
Benzo[g,h,i]perylene	191-24-2	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Benzo[k]fluoranthene	207-08-9	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Benzyl alcohol	100-51-6	0.0249	U		0.0245	0.330	0.0249	mg/Kg	62025	07/20/2011 18:58	1	GEF
Bis(2-chloroethoxy)methane	111-91-1	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Bis(2-chloroethyl)ether	111-44-4	0.0380	U		0.0374	0.330	0.0380	mg/Kg	62025	07/20/2011 18:58	1	GEF
Bis(2-ethylhexyl) phthalate	117-81-7	0.0383	J		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Butyl benzyl phthalate	85-68-7	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Chrysene	218-01-9	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Di-n-butyl phthalate	84-74-2	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Di-n-octyl phthalate	117-84-0	0.0190	U		0.0187	0.330	0.0190	mg/Kg	62025	07/20/2011 18:58	1	GEF
Dibenz(a,h)anthracene	53-70-3	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Dibenzofuran	132-64-9	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Diethyl phthalate	84-66-2	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Dimethyl phthalate	131-11-3	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Fluoranthene	206-44-0	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Fluorene	86-73-7	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Hexachlorobenzene	118-74-1	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Hexachlorobutadiene	87-68-3	0.0455	U		0.0447	0.330	0.0455	mg/Kg	62025	07/20/2011 18:58	1	GEF
Hexachlorocyclopentadiene	77-47-4	0.102	U		0.100	0.330	0.102	mg/Kg	62025	07/20/2011 18:58	1	GEF
Hexachloroethane	67-72-1	0.0510	U		0.0501	0.330	0.0510	mg/Kg	62025	07/20/2011 18:58	1	GEF
Indeno[1,2,3-cd]pyrene	193-39-5	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Isophorone	78-59-1	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
N-Nitrosodi-n-propylamine	621-64-7	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
N-Nitrosodiphenylamine	86-30-6	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Naphthalene	91-20-3	0.0424	U		0.0417	0.330	0.0424	mg/Kg	62025	07/20/2011 18:58	1	GEF
Nitrobenzene	98-95-3	0.0370	U		0.0364	0.330	0.0370	mg/Kg	62025	07/20/2011 18:58	1	GEF
Pentachlorophenol	87-86-5	0.102	U		0.100	0.330	0.102	mg/Kg	62025	07/20/2011 18:58	1	GEF
Phenanthrene	85-01-8	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Phenol	108-95-2	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF
Pyrene	129-00-0	0.0170	U		0.0167	0.330	0.0170	mg/Kg	62025	07/20/2011 18:58	1	GEF

**Surrogates**

Test Method	CAS Number	QC	Result	True Value	% Rec.	QC Limits	Flag	Instrument	Prep Batch	Analysis Date/Time	D.F.	Analyst
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**Surrogates**

Test Method	CAS Number	QC	Result	True Value	% Rec.	QC Limits	Flag	Instrument	Prep Batch	Analysis Date/Time	D.F.	Analyst
2,4,6-Tribromophenol	118-79-6		5.10	5.09	100	30-131		SVGCMS# 2	61801	07/20/2011 18:58	1	GEF
2-Fluorobiphenyl	321-60-8		2.82	3.39	83	57-130		SVGCMS# 2	61801	07/20/2011 18:58	1	GEF
2-Fluorophenol	367-12-4		3.65	5.09	72	48-130		SVGCMS# 2	61801	07/20/2011 18:58	1	GEF
Nitrobenzene-d5	4165-60-0		2.65	3.39	78	48-130		SVGCMS# 2	61801	07/20/2011 18:58	1	GEF
Phenol-d5	4165-62-2		3.87	5.09	76	56-130		SVGCMS# 2	61801	07/20/2011 18:58	1	GEF
Terphenyl-d14	1718-51-0		2.82	3.39	83	58-130		SVGCMS# 2	61801	07/20/2011 18:58	1	GEF

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcoln Refinery, Ingleside  
SDG Number: Falcoln Refinery, Ingleside

**Client Sample ID:** Comp-A-0-6

Lab Sample ID: 560-27063-1

Date Sampled: 07/14/2011 10:00

Client Matrix: Solid

Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
<b>Method:</b> SW846 9045D,Solid pH	STL00204	7.45			0.100	0.100	0.100	SU	61881	07/18/2011 10:35	1	AW

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcoln Refinery, Ingleside  
SDG Number: Falcoln Refinery, Ingleside

**Client Sample ID:** Comp-B-6-18

Lab Sample ID: 560-27063-2  
Client Matrix: Solid

Date Sampled: 07/14/2011 10:30  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
<b>Method: USDA 20B,Solid,Soluble</b> Preparation, Sodium Absorption Ratio		Complete							62112	07/21/2011 10:00		JEM
<b>Method: SW846 3050B,Solid</b> Preparation, Metals		Complete							62099	07/22/2011 10:00		JH
<b>Method: SW846 3550B,Solid</b> Ultrasonic Extraction		Complete							61801	07/15/2011 08:31		RA
<b>Method: SW846 5030B,Solid</b> Purge and Trap		Complete								07/15/2011 15:55		
<b>Method: SW846 7471A,Solid</b> Preparation, Mercury		Complete							62089	07/21/2011 08:22		JEM
<b>Method: SM SM 2510B,Solid,Soluble</b> Specific Conductance	STL00244	1850			1.00	1.00	1.00	umhos/cm	61826	07/15/2011 12:45	1	AW
<b>Method: SW846 9056,Solid,Soluble</b> Nitrate as N	14797-55-8	14.5	U		0.556	5.00	14.5	mg/Kg	61854	07/15/2011 20:59	25	HMZ
Nitrite as N	14797-65-0	52.2	U		2.00	5.00	52.2	mg/Kg	61854	07/15/2011 20:59	25	HMZ
<b>Method: USDA 20B,Solid,Soluble</b> Ca	7440-70-2	3.30						mg/L	62200	07/26/2011 08:35	1	JEM
Mg	7439-95-4	6.70						mg/L	62200	07/26/2011 08:35	1	JEM
Na	7440-23-5	53.6						mg/L	62200	07/26/2011 08:35	1	JEM
Sodium Adsorption Ratio	STL00047	3.90						NONE	62200	07/26/2011 08:35	1	JEM
<b>Method: EPA Moisture,Solid</b> Percent Moisture	STL00177	4.4			0.010	0.010	0.010	%	61832	07/15/2011 14:00	1	MD
Percent Solids	STL00234	96			0.010	0.010	0.010	%	61832	07/15/2011 14:00	1	MD
<b>Method: EPA Total Nitrogen,Solid</b> Nitrogen, Total	STL00155	214			5.00	5.00	5.00	mg/Kg	62348	07/28/2011 16:58	1	HMZ
<b>Method: MCAWW 351.2,Solid</b> Nitrogen, Kjeldahl	STL00296	214			35.2	40.0	36.8	mg/Kg	58719	07/18/2011 16:05	1	SC
<b>Method: SW846 6010B,Solid</b>										Dry Weight Corrected?:		Y

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcoln Refinery, Ingleside  
SDG Number: Falcoln Refinery, Ingleside

**Client Sample ID:** Comp-B-6-18

Lab Sample ID: 560-27063-2

Client Matrix: Solid

Date Sampled: 07/14/2011 10:30  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
Arsenic	7440-38-2	0.606	J		0.145	2.00	0.144	mg/Kg	62161	07/22/2011 17:15	1	JEM
Barium	7440-39-3	15.2			0.189	1.00	0.187	mg/Kg	62161	07/22/2011 17:15	1	JEM
Cadmium	7440-43-9	0.0614	J		0.0360	0.500	0.0357	mg/Kg	62161	07/22/2011 17:15	1	JEM
Chromium	7440-47-3	0.996			0.134	1.00	0.133	mg/Kg	62161	07/22/2011 17:15	1	JEM
Lead	7439-92-1	3.33			0.152	0.500	0.151	mg/Kg	62161	07/22/2011 17:15	1	JEM
Selenium	7782-49-2	0.196	U		0.198	1.00	0.196	mg/Kg	62161	07/22/2011 17:15	1	JEM
Silver	7440-22-4	0.109	U		0.110	0.500	0.109	mg/Kg	62161	07/22/2011 17:15	1	JEM
<b>Method: SW846 7471A,Solid</b>												Dry Weight Corrected?: Y
Mercury	7439-97-6	0.0182	J		0.0180	0.200	0.0109	mg/Kg	62082	07/21/2011 15:22	1	JEM
<b>Method: SW846 8260B,Solid</b>												Dry Weight Corrected?: Y
1,1,1-Trichloroethane	71-55-6	0.000641	U		0.000700	0.00500	0.000641	mg/Kg	61803	07/15/2011 15:55	1	RT
1,1,2,2-Tetrachloroethane	79-34-5	0.000348	U		0.000380	0.00500	0.000348	mg/Kg	61803	07/15/2011 15:55	1	RT
1,1,2-Trichloro-1,2,2-trifluoro ethane	76-13-1	0.000613	U		0.000670	0.00500	0.000613	mg/Kg	61803	07/15/2011 15:55	1	RT
1,1,2-Trichloroethane	79-00-5	0.000458	U		0.000500	0.00500	0.000458	mg/Kg	61803	07/15/2011 15:55	1	RT
1,1-Dichloroethane	75-34-3	0.000540	U		0.000590	0.00500	0.000540	mg/Kg	61803	07/15/2011 15:55	1	RT
1,1-Dichloroethene	75-35-4	0.000174	U		0.000190	0.00500	0.000174	mg/Kg	61803	07/15/2011 15:55	1	RT
1,1-Dichloropropene	563-58-6	0.000476	U		0.000520	0.00500	0.000476	mg/Kg	61803	07/15/2011 15:55	1	RT
1,2,3-Trichlorobenzene	87-61-6	0.000403	U		0.000440	0.00500	0.000403	mg/Kg	61803	07/15/2011 15:55	1	RT
1,2,3-Trichloropropane	96-18-4	0.000696	U		0.000760	0.00500	0.000696	mg/Kg	61803	07/15/2011 15:55	1	RT
1,2,4-Trimethylbenzene	95-63-6	0.000183	U		0.000200	0.00500	0.000183	mg/Kg	61803	07/15/2011 15:55	1	RT
1,2-Dichloroethane	107-06-2	0.000476	U		0.000520	0.00500	0.000476	mg/Kg	61803	07/15/2011 15:55	1	RT
1,2-Dichloropropane	78-87-5	0.000137	U		0.000150	0.00500	0.000137	mg/Kg	61803	07/15/2011 15:55	1	RT
1,3,5-Trimethylbenzene	108-67-8	0.000192	U		0.000210	0.00500	0.000192	mg/Kg	61803	07/15/2011 15:55	1	RT
1,3-Dichloropropane	142-28-9	0.000220	U		0.000240	0.00500	0.000220	mg/Kg	61803	07/15/2011 15:55	1	RT
1,4-Dioxane	123-91-1	0.0174	U		0.0190	0.100	0.0174	mg/Kg	61803	07/15/2011 15:55	1	RT
2,2-Dichloropropane	594-20-7	0.000769	U		0.000840	0.00500	0.000769	mg/Kg	61803	07/15/2011 15:55	1	RT
2-Butanone (MEK)	78-93-3	0.000916	U		0.00100	0.00500	0.000916	mg/Kg	61803	07/15/2011 15:55	1	RT
2-Hexanone	591-78-6	0.00110	U		0.00120	0.00500	0.00110	mg/Kg	61803	07/15/2011 15:55	1	RT
2-Nitropropane	79-46-9	0.000476	U		0.000520	0.00500	0.000476	mg/Kg	61803	07/15/2011 15:55	1	RT
4-Methyl-2-pentanone (MIBK)	108-10-1	0.000852	U		0.000930	0.00500	0.000852	mg/Kg	61803	07/15/2011 15:55	1	RT
Acetone	67-64-1	0.00659	U		0.00720	0.0500	0.00659	mg/Kg	61803	07/15/2011 15:55	1	RT
Acetonitrile	75-05-8	0.0339	U		0.0370	0.0500	0.0339	mg/Kg	61803	07/15/2011 15:55	1	RT
Benzene	71-43-2	0.000211	U		0.000230	0.00500	0.000211	mg/Kg	61803	07/15/2011 15:55	1	RT

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcoln Refinery, Ingleside  
SDG Number: Falcoln Refinery, Ingleside

**Client Sample ID:** Comp-B-6-18

Lab Sample ID: 560-27063-2

Client Matrix: Solid

Date Sampled: 07/14/2011 10:30  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
Bromoform	75-25-2	0.000467	U		0.000510	0.00500	0.000467	mg/Kg	61803	07/15/2011 15:55	1	RT
Bromomethane	74-83-9	0.00101	U		0.00110	0.00500	0.00101	mg/Kg	61803	07/15/2011 15:55	1	RT
Carbon disulfide	75-15-0	0.000916	U		0.00100	0.00500	0.000916	mg/Kg	61803	07/15/2011 15:55	1	RT
Carbon tetrachloride	56-23-5	0.000467	U		0.000510	0.00500	0.000467	mg/Kg	61803	07/15/2011 15:55	1	RT
Chlorobenzene	108-90-7	0.000211	U		0.000230	0.00500	0.000211	mg/Kg	61803	07/15/2011 15:55	1	RT
Chlorodibromomethane	124-48-1	0.000586	U		0.000640	0.00500	0.000586	mg/Kg	61803	07/15/2011 15:55	1	RT
Chloroethane	75-00-3	0.000238	U		0.000260	0.00500	0.000238	mg/Kg	61803	07/15/2011 15:55	1	RT
Chloroform	67-66-3	0.000797	U		0.000870	0.00500	0.000797	mg/Kg	61803	07/15/2011 15:55	1	RT
Chloromethane	74-87-3	0.00110	U		0.00120	0.00500	0.00110	mg/Kg	61803	07/15/2011 15:55	1	RT
cis-1,2-Dichloroethene	156-59-2	0.000522	U		0.000570	0.00500	0.000522	mg/Kg	61803	07/15/2011 15:55	1	RT
cis-1,3-Dichloropropene	10061-01-5	0.000129	U		0.000141	0.00500	0.000129	mg/Kg	61803	07/15/2011 15:55	1	RT
Dibromomethane	74-95-3	0.000650	U		0.000710	0.00500	0.000650	mg/Kg	61803	07/15/2011 15:55	1	RT
Dichlorobromomethane	75-27-4	0.000174	U		0.000190	0.00500	0.000174	mg/Kg	61803	07/15/2011 15:55	1	RT
Dichlorodifluoromethane	75-71-8	0.000668	U		0.000730	0.00500	0.000668	mg/Kg	61803	07/15/2011 15:55	1	RT
Ethyl acetate	141-78-6	0.00110	U		0.00120	0.00500	0.00110	mg/Kg	61803	07/15/2011 15:55	1	RT
Ethyl ether	60-29-7	0.000156	U		0.000170	0.00500	0.000156	mg/Kg	61803	07/15/2011 15:55	1	RT
Ethyl methacrylate	97-63-2	0.000467	U		0.000510	0.00500	0.000467	mg/Kg	61803	07/15/2011 15:55	1	RT
Ethylbenzene	100-41-4	0.000201	U		0.000220	0.00500	0.000201	mg/Kg	61803	07/15/2011 15:55	1	RT
Ethylene Dibromide	106-93-4	0.000156	U		0.000170	0.00500	0.000156	mg/Kg	61803	07/15/2011 15:55	1	RT
Iodomethane	74-88-4	0.000732	U		0.000800	0.00500	0.000732	mg/Kg	61803	07/15/2011 15:55	1	RT
Methyl methacrylate	80-62-6	0.00101	U		0.00110	0.00500	0.00101	mg/Kg	61803	07/15/2011 15:55	1	RT
Methyl tert-butyl ether	1634-04-4	0.000559	U		0.000610	0.00500	0.000559	mg/Kg	61803	07/15/2011 15:55	1	RT
Methylene Chloride	75-09-2	0.00458	U		0.00500	0.0250	0.00458	mg/Kg	61803	07/15/2011 15:55	1	RT
Styrene	100-42-5	0.000183	U		0.000200	0.00500	0.000183	mg/Kg	61803	07/15/2011 15:55	1	RT
Tetrachloroethene	127-18-4	0.000678	U		0.000740	0.00500	0.000678	mg/Kg	61803	07/15/2011 15:55	1	RT
Toluene	108-88-3	0.000513	U		0.000560	0.00500	0.000513	mg/Kg	61803	07/15/2011 15:55	1	RT
trans-1,2-Dichloroethene	156-60-5	0.000458	U		0.000500	0.00500	0.000458	mg/Kg	61803	07/15/2011 15:55	1	RT
trans-1,3-Dichloropropene	10061-02-6	0.000476	U		0.000520	0.00500	0.000476	mg/Kg	61803	07/15/2011 15:55	1	RT
Trichloroethene	79-01-6	0.000256	U		0.000280	0.00500	0.000256	mg/Kg	61803	07/15/2011 15:55	1	RT
Trichlorofluoromethane	75-69-4	0.000458	U		0.000500	0.00500	0.000458	mg/Kg	61803	07/15/2011 15:55	1	RT
Vinyl acetate	108-05-4	0.00101	U		0.00110	0.00500	0.00101	mg/Kg	61803	07/15/2011 15:55	1	RT
Vinyl chloride	75-01-4	0.000549	U		0.000600	0.00500	0.000549	mg/Kg	61803	07/15/2011 15:55	1	RT
Xylenes, Total	1330-20-7	0.000330	U		0.000360	0.0150	0.000330	mg/Kg	61803	07/15/2011 15:55	1	RT

**Surrogates**

Test Method	CAS Number	QC	Result	True Value	% Rec.	QC Limits	Flag	Instrument	Prep Batch	Analysis Date/Time	D.F.	Analyst
1,2-Dichloroethane-d4 (Surr)	17060-07-0		0.0460	0.0458	100	70-152		VGCMS#3		07/15/2011 15:55	1	RT
4-Bromofluorobenzene (Surr)	460-00-4		0.0423	0.0458	92	61-130		VGCMS#3		07/15/2011 15:55	1	RT
Dibromofluoromethane (Surr)	1868-53-7		0.0422	0.0458	92	63-136		VGCMS#3		07/15/2011 15:55	1	RT
Toluene-d8 (Surr)	2037-26-5		0.0446	0.0458	97	69-139		VGCMS#3		07/15/2011 15:55	1	RT

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcoln Refinery, Ingleside  
SDG Number: Falcoln Refinery, Ingleside

**Client Sample ID:** Comp-B-6-18

Lab Sample ID: 560-27063-2  
Client Matrix: Solid

Date Sampled: 07/14/2011 10:30  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
<b>Method: SW846 8270C,Solid</b>												
1,2,4-Trichlorobenzene	120-82-1	0.0476	U		0.0457	0.330	0.0476	mg/Kg	62025	07/20/2011 19:23	1	GEF
1,2-Dichlorobenzene	95-50-1	0.0542	U		0.0521	0.330	0.0542	mg/Kg	62025	07/20/2011 19:23	1	GEF
1,3-Dichlorobenzene	541-73-1	0.0456	U		0.0438	0.330	0.0456	mg/Kg	62025	07/20/2011 19:23	1	GEF
1,4-Dichlorobenzene	106-46-7	0.0477	U		0.0458	0.330	0.0477	mg/Kg	62025	07/20/2011 19:23	1	GEF
2,4,5-Trichlorophenol	95-95-4	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
2,4,6-Trichlorophenol	88-06-2	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
2,4-Dichlorophenol	120-83-2	0.0237	U		0.0228	0.330	0.0237	mg/Kg	62025	07/20/2011 19:23	1	GEF
2,4-Dimethylphenol	105-67-9	0.0212	U		0.0204	0.330	0.0212	mg/Kg	62025	07/20/2011 19:23	1	GEF
2,4-Dinitrophenol	51-28-5	0.104	U		0.100	0.330	0.104	mg/Kg	62025	07/20/2011 19:23	1	GEF
2,4-Dinitrotoluene	121-14-2	0.0220	U		0.0211	0.330	0.0220	mg/Kg	62025	07/20/2011 19:23	1	GEF
2,6-Dinitrotoluene	606-20-2	0.0520	U		0.0500	0.330	0.0520	mg/Kg	62025	07/20/2011 19:23	1	GEF
2-Chloronaphthalene	91-58-7	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
2-Chlorophenol	95-57-8	0.0289	U		0.0278	0.330	0.0289	mg/Kg	62025	07/20/2011 19:23	1	GEF
2-Methylnaphthalene	91-57-6	0.0324	U		0.0311	0.330	0.0324	mg/Kg	62025	07/20/2011 19:23	1	GEF
2-Methylphenol	95-48-7	0.0343	U		0.0330	0.330	0.0343	mg/Kg	62025	07/20/2011 19:23	1	GEF
2-Nitroaniline	88-74-4	0.0231	U		0.0222	0.330	0.0231	mg/Kg	62025	07/20/2011 19:23	1	GEF
2-Nitrophenol	88-75-5	0.0177	U		0.0170	0.330	0.0177	mg/Kg	62025	07/20/2011 19:23	1	GEF
3 & 4 Methylphenol	15831-10-4	0.0520	U		0.0500	0.670	0.0520	mg/Kg	62025	07/20/2011 19:23	1	GEF
3,3'-Dichlorobenzidine	91-94-1	0.0520	U		0.0500	0.330	0.0520	mg/Kg	62025	07/20/2011 19:23	1	GEF
3-Nitroaniline	99-09-2	0.0520	U		0.0500	0.330	0.0520	mg/Kg	62025	07/20/2011 19:23	1	GEF
4,6-Dinitro-2-methylphenol	534-52-1	0.0520	U		0.0500	0.330	0.0520	mg/Kg	62025	07/20/2011 19:23	1	GEF
4-Bromophenyl phenyl ether	101-55-3	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
4-Chloro-3-methylphenol	59-50-7	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
4-Chloroaniline	106-47-8	0.0485	U		0.0466	0.330	0.0485	mg/Kg	62025	07/20/2011 19:23	1	GEF
4-Chlorophenyl phenyl ether	7005-72-3	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
4-Nitroaniline	100-01-6	0.0292	U		0.0281	0.330	0.0292	mg/Kg	62025	07/20/2011 19:23	1	GEF
4-Nitrophenol	100-02-7	0.0317	U		0.0305	0.330	0.0317	mg/Kg	62025	07/20/2011 19:23	1	GEF
Acenaphthene	83-32-9	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Acenaphthylene	208-96-8	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Anthracene	120-12-7	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Benzo[a]anthracene	56-55-3	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Benzo[a]pyrene	50-32-8	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Benzo[b]fluoranthene	205-99-2	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcon Refinery, Ingleside  
SDG Number: Falcon Refinery, Ingleside

**Client Sample ID:** Comp-B-6-18

Lab Sample ID: 560-27063-2

Client Matrix: Solid

Date Sampled: 07/14/2011 10:30  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
Benzo[g,h,i]perylene	191-24-2	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Benzo[k]fluoranthene	207-08-9	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Benzyl alcohol	100-51-6	0.0255	U		0.0245	0.330	0.0255	mg/Kg	62025	07/20/2011 19:23	1	GEF
Bis(2-chloroethoxy)methane	111-91-1	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Bis(2-chloroethyl)ether	111-44-4	0.0389	U		0.0374	0.330	0.0389	mg/Kg	62025	07/20/2011 19:23	1	GEF
Bis(2-ethylhexyl) phthalate	117-81-7	0.0203	J		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Butyl benzyl phthalate	85-68-7	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Chrysene	218-01-9	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Di-n-butyl phthalate	84-74-2	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Di-n-octyl phthalate	117-84-0	0.0195	U		0.0187	0.330	0.0195	mg/Kg	62025	07/20/2011 19:23	1	GEF
Dibenz(a,h)anthracene	53-70-3	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Dibenzofuran	132-64-9	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Diethyl phthalate	84-66-2	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Dimethyl phthalate	131-11-3	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Fluoranthene	206-44-0	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Fluorene	86-73-7	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Hexachlorobenzene	118-74-1	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Hexachlorobutadiene	87-68-3	0.0465	U		0.0447	0.330	0.0465	mg/Kg	62025	07/20/2011 19:23	1	GEF
Hexachlorocyclopentadiene	77-47-4	0.104	U		0.100	0.330	0.104	mg/Kg	62025	07/20/2011 19:23	1	GEF
Hexachloroethane	67-72-1	0.0521	U		0.0501	0.330	0.0521	mg/Kg	62025	07/20/2011 19:23	1	GEF
Indeno[1,2,3-cd]pyrene	193-39-5	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Isophorone	78-59-1	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
N-Nitrosodi-n-propylamine	621-64-7	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
N-Nitrosodiphenylamine	86-30-6	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Naphthalene	91-20-3	0.0434	U		0.0417	0.330	0.0434	mg/Kg	62025	07/20/2011 19:23	1	GEF
Nitrobenzene	98-95-3	0.0379	U		0.0364	0.330	0.0379	mg/Kg	62025	07/20/2011 19:23	1	GEF
Pentachlorophenol	87-86-5	0.104	U		0.100	0.330	0.104	mg/Kg	62025	07/20/2011 19:23	1	GEF
Phenanthrene	85-01-8	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Phenol	108-95-2	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF
Pyrene	129-00-0	0.0174	U		0.0167	0.330	0.0174	mg/Kg	62025	07/20/2011 19:23	1	GEF

**Surrogates**

Test Method	CAS Number	QC	Result	True Value	% Rec.	QC Limits	Flag	Instrument	Prep Batch	Analysis Date/Time	D.F.	Analyst
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**Surrogates**

Test Method	CAS Number	QC	Result	True Value	% Rec.	QC Limits	Flag	Instrument	Prep Batch	Analysis Date/Time	D.F.	Analyst
2,4,6-Tribromophenol	118-79-6		5.52	5.20	106	30-131		SVGCMS# 2	61801	07/20/2011 19:23	1	GEF
2-Fluorobiphenyl	321-60-8		2.64	3.47	76	57-130		SVGCMS# 2	61801	07/20/2011 19:23	1	GEF
2-Fluorophenol	367-12-4		3.44	5.20	66	48-130		SVGCMS# 2	61801	07/20/2011 19:23	1	GEF
Nitrobenzene-d5	4165-60-0		2.46	3.47	71	48-130		SVGCMS# 2	61801	07/20/2011 19:23	1	GEF
Phenol-d5	4165-62-2		3.72	5.20	71	56-130		SVGCMS# 2	61801	07/20/2011 19:23	1	GEF
Terphenyl-d14	1718-51-0		2.88	3.47	83	58-130		SVGCMS# 2	61801	07/20/2011 19:23	1	GEF

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcon Refinery, Ingleside  
SDG Number: Falcon Refinery, Ingleside

**Client Sample ID:** Comp-B-6-18

Lab Sample ID: 560-27063-2

Date Sampled: 07/14/2011 10:30

Client Matrix: Solid

Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
<b>Method:</b> SW846 9045D,Solid pH	STL00204	8.31			0.100	0.100	0.100	SU	61881	07/18/2011 10:35	1	AW

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcoln Refinery, Ingleside  
SDG Number: Falcoln Refinery, Ingleside

**Client Sample ID:** Comp-C-18-30

Lab Sample ID: 560-27063-3  
Client Matrix: Solid

Date Sampled: 07/14/2011 11:00  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
<b>Method: USDA 20B,Solid,Soluble</b> Preparation, Sodium Absorption Ratio		Complete							62112	07/21/2011 10:00		JEM
<b>Method: SW846 3050B,Solid</b> Preparation, Metals		Complete							62099	07/22/2011 10:00		JH
<b>Method: SW846 3550B,Solid</b> Ultrasonic Extraction		Complete							61801	07/15/2011 08:31		RA
<b>Method: SW846 5030B,Solid</b> Purge and Trap		Complete								07/15/2011 16:21		
<b>Method: SW846 7471A,Solid</b> Preparation, Mercury		Complete							62089	07/21/2011 08:22		JEM
<b>Method: SM SM 2510B,Solid,Soluble</b> Specific Conductance	STL00244	1340			1.00	1.00	1.00	umhos/cm	61826	07/15/2011 12:45	1	AW
<b>Method: SW846 9056,Solid,Soluble</b> Nitrate as N	14797-55-8	15.6	U		0.556	5.00	15.6	mg/Kg	61854	07/15/2011 21:21	25	HMZ
Nitrite as N	14797-65-0	56.0	U		2.00	5.00	56.0	mg/Kg	61854	07/15/2011 21:21	25	HMZ
<b>Method: USDA 20B,Solid,Soluble</b> Ca	7440-70-2	1.40						mg/L	62200	07/26/2011 10:35	1	JEM
Mg	7439-95-4	6.10						mg/L	62200	07/26/2011 10:35	1	JEM
Na	7440-23-5	13.4						mg/L	62200	07/26/2011 10:35	1	JEM
Sodium Adsorption Ratio	STL00047	1.10						NONE	62200	07/26/2011 10:35	1	JEM
<b>Method: EPA Moisture,Solid</b> Percent Moisture	STL00177	10			0.010	0.010	0.010	%	61832	07/15/2011 14:00	1	MD
Percent Solids	STL00234	90			0.010	0.010	0.010	%	61832	07/15/2011 14:00	1	MD
<b>Method: EPA Total Nitrogen,Solid</b> Nitrogen, Total	STL00155	240			5.00	5.00	5.00	mg/Kg	62348	07/28/2011 16:58	1	HMZ
<b>Method: MCAWW 351.2,Solid</b> Nitrogen, Kjeldahl	STL00296	240			35.2	40.0	39.3	mg/Kg	58719	07/18/2011 16:06	1	SC
<b>Method: SW846 6010B,Solid</b>										Dry Weight Corrected?:		Y

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcoln Refinery, Ingleside  
SDG Number: Falcoln Refinery, Ingleside

**Client Sample ID:** Comp-C-18-30

Lab Sample ID: 560-27063-3

Client Matrix: Solid

Date Sampled: 07/14/2011 11:00  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
Arsenic	7440-38-2	1.43	J		0.145	2.00	0.131	mg/Kg	62161	07/22/2011 17:24	1	JEM
Barium	7440-39-3	30.0			0.189	1.00	0.171	mg/Kg	62161	07/22/2011 17:24	1	JEM
Cadmium	7440-43-9	0.0656	J		0.0360	0.500	0.0326	mg/Kg	62161	07/22/2011 17:24	1	JEM
Chromium	7440-47-3	2.07			0.134	1.00	0.121	mg/Kg	62161	07/22/2011 17:24	1	JEM
Lead	7439-92-1	2.50			0.152	0.500	0.138	mg/Kg	62161	07/22/2011 17:24	1	JEM
Selenium	7782-49-2	0.179	U		0.198	1.00	0.179	mg/Kg	62161	07/22/2011 17:24	1	JEM
Silver	7440-22-4	0.0996	U		0.110	0.500	0.0996	mg/Kg	62161	07/22/2011 17:24	1	JEM
<b>Method: SW846 7471A,Solid</b>												Dry Weight Corrected?: Y
Mercury	7439-97-6	0.0165	U		0.0180	0.200	0.0165	mg/Kg	62082	07/21/2011 15:25	1	JEM
<b>Method: SW846 8260B,Solid</b>												Dry Weight Corrected?: Y
1,1,1-Trichloroethane	71-55-6	0.000684	U		0.000700	0.00500	0.000684	mg/Kg	61803	07/15/2011 16:21	1	RT
1,1,2,2-Tetrachloroethane	79-34-5	0.000371	U		0.000380	0.00500	0.000371	mg/Kg	61803	07/15/2011 16:21	1	RT
1,1,2-Trichloro-1,2,2-trifluoro ethane	76-13-1	0.000654	U		0.000670	0.00500	0.000654	mg/Kg	61803	07/15/2011 16:21	1	RT
1,1,2-Trichloroethane	79-00-5	0.000488	U		0.000500	0.00500	0.000488	mg/Kg	61803	07/15/2011 16:21	1	RT
1,1-Dichloroethane	75-34-3	0.000576	U		0.000590	0.00500	0.000576	mg/Kg	61803	07/15/2011 16:21	1	RT
1,1-Dichloroethene	75-35-4	0.000186	U		0.000190	0.00500	0.000186	mg/Kg	61803	07/15/2011 16:21	1	RT
1,1-Dichloropropene	563-58-6	0.000508	U		0.000520	0.00500	0.000508	mg/Kg	61803	07/15/2011 16:21	1	RT
1,2,3-Trichlorobenzene	87-61-6	0.000430	U		0.000440	0.00500	0.000430	mg/Kg	61803	07/15/2011 16:21	1	RT
1,2,3-Trichloropropane	96-18-4	0.000742	U		0.000760	0.00500	0.000742	mg/Kg	61803	07/15/2011 16:21	1	RT
1,2,4-Trimethylbenzene	95-63-6	0.000195	U		0.000200	0.00500	0.000195	mg/Kg	61803	07/15/2011 16:21	1	RT
1,2-Dichloroethane	107-06-2	0.000508	U		0.000520	0.00500	0.000508	mg/Kg	61803	07/15/2011 16:21	1	RT
1,2-Dichloropropane	78-87-5	0.000146	U		0.000150	0.00500	0.000146	mg/Kg	61803	07/15/2011 16:21	1	RT
1,3,5-Trimethylbenzene	108-67-8	0.000205	U		0.000210	0.00500	0.000205	mg/Kg	61803	07/15/2011 16:21	1	RT
1,3-Dichloropropane	142-28-9	0.000234	U		0.000240	0.00500	0.000234	mg/Kg	61803	07/15/2011 16:21	1	RT
1,4-Dioxane	123-91-1	0.0186	U		0.0190	0.100	0.0186	mg/Kg	61803	07/15/2011 16:21	1	RT
2,2-Dichloropropane	594-20-7	0.000820	U		0.000840	0.00500	0.000820	mg/Kg	61803	07/15/2011 16:21	1	RT
2-Butanone (MEK)	78-93-3	0.000977	U		0.00100	0.00500	0.000977	mg/Kg	61803	07/15/2011 16:21	1	RT
2-Hexanone	591-78-6	0.00117	U		0.00120	0.00500	0.00117	mg/Kg	61803	07/15/2011 16:21	1	RT
2-Nitropropane	79-46-9	0.000508	U		0.000520	0.00500	0.000508	mg/Kg	61803	07/15/2011 16:21	1	RT
4-Methyl-2-pentanone (MIBK)	108-10-1	0.000908	U		0.000930	0.00500	0.000908	mg/Kg	61803	07/15/2011 16:21	1	RT
Acetone	67-64-1	0.00703	U		0.00720	0.0500	0.00703	mg/Kg	61803	07/15/2011 16:21	1	RT
Acetonitrile	75-05-8	0.0361	U		0.0370	0.0500	0.0361	mg/Kg	61803	07/15/2011 16:21	1	RT
Benzene	71-43-2	0.000225	U		0.000230	0.00500	0.000225	mg/Kg	61803	07/15/2011 16:21	1	RT

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcoln Refinery, Ingleside  
SDG Number: Falcoln Refinery, Ingleside

**Client Sample ID:** Comp-C-18-30

Lab Sample ID: 560-27063-3

Client Matrix: Solid

Date Sampled: 07/14/2011 11:00  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
Bromoform	75-25-2	0.000498	U		0.000510	0.00500	0.000498	mg/Kg	61803	07/15/2011 16:21	1	RT
Bromomethane	74-83-9	0.00107	U		0.00110	0.00500	0.00107	mg/Kg	61803	07/15/2011 16:21	1	RT
Carbon disulfide	75-15-0	0.000977	U		0.00100	0.00500	0.000977	mg/Kg	61803	07/15/2011 16:21	1	RT
Carbon tetrachloride	56-23-5	0.000498	U		0.000510	0.00500	0.000498	mg/Kg	61803	07/15/2011 16:21	1	RT
Chlorobenzene	108-90-7	0.000225	U		0.000230	0.00500	0.000225	mg/Kg	61803	07/15/2011 16:21	1	RT
Chlorodibromomethane	124-48-1	0.000625	U		0.000640	0.00500	0.000625	mg/Kg	61803	07/15/2011 16:21	1	RT
Chloroethane	75-00-3	0.000254	U		0.000260	0.00500	0.000254	mg/Kg	61803	07/15/2011 16:21	1	RT
Chloroform	67-66-3	0.000850	U		0.000870	0.00500	0.000850	mg/Kg	61803	07/15/2011 16:21	1	RT
Chloromethane	74-87-3	0.00117	U		0.00120	0.00500	0.00117	mg/Kg	61803	07/15/2011 16:21	1	RT
cis-1,2-Dichloroethene	156-59-2	0.000557	U		0.000570	0.00500	0.000557	mg/Kg	61803	07/15/2011 16:21	1	RT
cis-1,3-Dichloropropene	10061-01-5	0.000138	U		0.000141	0.00500	0.000138	mg/Kg	61803	07/15/2011 16:21	1	RT
Dibromomethane	74-95-3	0.000693	U		0.000710	0.00500	0.000693	mg/Kg	61803	07/15/2011 16:21	1	RT
Dichlorobromomethane	75-27-4	0.000186	U		0.000190	0.00500	0.000186	mg/Kg	61803	07/15/2011 16:21	1	RT
Dichlorodifluoromethane	75-71-8	0.000713	U		0.000730	0.00500	0.000713	mg/Kg	61803	07/15/2011 16:21	1	RT
Ethyl acetate	141-78-6	0.00117	U		0.00120	0.00500	0.00117	mg/Kg	61803	07/15/2011 16:21	1	RT
Ethyl ether	60-29-7	0.000166	U		0.000170	0.00500	0.000166	mg/Kg	61803	07/15/2011 16:21	1	RT
Ethyl methacrylate	97-63-2	0.000498	U		0.000510	0.00500	0.000498	mg/Kg	61803	07/15/2011 16:21	1	RT
Ethylbenzene	100-41-4	0.000215	U		0.000220	0.00500	0.000215	mg/Kg	61803	07/15/2011 16:21	1	RT
Ethylene Dibromide	106-93-4	0.000166	U		0.000170	0.00500	0.000166	mg/Kg	61803	07/15/2011 16:21	1	RT
Iodomethane	74-88-4	0.000781	U		0.000800	0.00500	0.000781	mg/Kg	61803	07/15/2011 16:21	1	RT
Methyl methacrylate	80-62-6	0.00107	U		0.00110	0.00500	0.00107	mg/Kg	61803	07/15/2011 16:21	1	RT
Methyl tert-butyl ether	1634-04-4	0.000596	U		0.000610	0.00500	0.000596	mg/Kg	61803	07/15/2011 16:21	1	RT
Methylene Chloride	75-09-2	0.00493	J		0.00500	0.0250	0.00488	mg/Kg	61803	07/15/2011 16:21	1	RT
Styrene	100-42-5	0.000195	U		0.000200	0.00500	0.000195	mg/Kg	61803	07/15/2011 16:21	1	RT
Tetrachloroethene	127-18-4	0.000723	U		0.000740	0.00500	0.000723	mg/Kg	61803	07/15/2011 16:21	1	RT
Toluene	108-88-3	0.000547	U		0.000560	0.00500	0.000547	mg/Kg	61803	07/15/2011 16:21	1	RT
trans-1,2-Dichloroethene	156-60-5	0.000488	U		0.000500	0.00500	0.000488	mg/Kg	61803	07/15/2011 16:21	1	RT
trans-1,3-Dichloropropene	10061-02-6	0.000508	U		0.000520	0.00500	0.000508	mg/Kg	61803	07/15/2011 16:21	1	RT
Trichloroethene	79-01-6	0.000273	U		0.000280	0.00500	0.000273	mg/Kg	61803	07/15/2011 16:21	1	RT
Trichlorofluoromethane	75-69-4	0.000488	U		0.000500	0.00500	0.000488	mg/Kg	61803	07/15/2011 16:21	1	RT
Vinyl acetate	108-05-4	0.00107	U		0.00110	0.00500	0.00107	mg/Kg	61803	07/15/2011 16:21	1	RT
Vinyl chloride	75-01-4	0.000586	U		0.000600	0.00500	0.000586	mg/Kg	61803	07/15/2011 16:21	1	RT
Xylenes, Total	1330-20-7	0.000352	U		0.000360	0.0150	0.000352	mg/Kg	61803	07/15/2011 16:21	1	RT

**Surrogates**

Test Method	CAS Number	QC	Result	True Value	% Rec.	QC Limits	Flag	Instrument	Prep Batch	Analysis Date/Time	D.F.	Analyst
1,2-Dichloroethane-d4 (Surr)	17060-07-0		0.0478	0.0488	98	70-152		VGCMS#3		07/15/2011 16:21	1	RT
4-Bromofluorobenzene (Surr)	460-00-4		0.0443	0.0488	91	61-130		VGCMS#3		07/15/2011 16:21	1	RT
Dibromofluoromethane (Surr)	1868-53-7		0.0449	0.0488	92	63-136		VGCMS#3		07/15/2011 16:21	1	RT
Toluene-d8 (Surr)	2037-26-5		0.0457	0.0488	94	69-139		VGCMS#3		07/15/2011 16:21	1	RT

## Analytical Data

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcon Refinery, Ingleside  
SDG Number: Falcon Refinery, Ingleside

Client Sample ID: Comp-C-18-30

Lab Sample ID: 560-27063-3

Client Matrix: Solid

Date Sampled: 07/14/2011 11:00  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
<b>Method: SW846 8270C,Solid</b>												
1,2,4-Trichlorobenzene	120-82-1	0.0494	U		0.0457	0.330	0.0494	mg/Kg	62025	07/20/2011 19:48	1	GEF
1,2-Dichlorobenzene	95-50-1	0.0564	U		0.0521	0.330	0.0564	mg/Kg	62025	07/20/2011 19:48	1	GEF
1,3-Dichlorobenzene	541-73-1	0.0474	U		0.0438	0.330	0.0474	mg/Kg	62025	07/20/2011 19:48	1	GEF
1,4-Dichlorobenzene	106-46-7	0.0495	U		0.0458	0.330	0.0495	mg/Kg	62025	07/20/2011 19:48	1	GEF
2,4,5-Trichlorophenol	95-95-4	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
2,4,6-Trichlorophenol	88-06-2	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
2,4-Dichlorophenol	120-83-2	0.0247	U		0.0228	0.330	0.0247	mg/Kg	62025	07/20/2011 19:48	1	GEF
2,4-Dimethylphenol	105-67-9	0.0221	U		0.0204	0.330	0.0221	mg/Kg	62025	07/20/2011 19:48	1	GEF
2,4-Dinitrophenol	51-28-5	0.108	U		0.100	0.330	0.108	mg/Kg	62025	07/20/2011 19:48	1	GEF
2,4-Dinitrotoluene	121-14-2	0.0228	U		0.0211	0.330	0.0228	mg/Kg	62025	07/20/2011 19:48	1	GEF
2,6-Dinitrotoluene	606-20-2	0.0541	U		0.0500	0.330	0.0541	mg/Kg	62025	07/20/2011 19:48	1	GEF
2-Chloronaphthalene	91-58-7	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
2-Chlorophenol	95-57-8	0.0301	U		0.0278	0.330	0.0301	mg/Kg	62025	07/20/2011 19:48	1	GEF
2-Methylnaphthalene	91-57-6	0.0336	U		0.0311	0.330	0.0336	mg/Kg	62025	07/20/2011 19:48	1	GEF
2-Methylphenol	95-48-7	0.0357	U		0.0330	0.330	0.0357	mg/Kg	62025	07/20/2011 19:48	1	GEF
2-Nitroaniline	88-74-4	0.0240	U		0.0222	0.330	0.0240	mg/Kg	62025	07/20/2011 19:48	1	GEF
2-Nitrophenol	88-75-5	0.0184	U		0.0170	0.330	0.0184	mg/Kg	62025	07/20/2011 19:48	1	GEF
3 & 4 Methylphenol	15831-10-4	0.0541	U		0.0500	0.670	0.0541	mg/Kg	62025	07/20/2011 19:48	1	GEF
3,3'-Dichlorobenzidine	91-94-1	0.0541	U		0.0500	0.330	0.0541	mg/Kg	62025	07/20/2011 19:48	1	GEF
3-Nitroaniline	99-09-2	0.0541	U		0.0500	0.330	0.0541	mg/Kg	62025	07/20/2011 19:48	1	GEF
4,6-Dinitro-2-methylphenol	534-52-1	0.0541	U		0.0500	0.330	0.0541	mg/Kg	62025	07/20/2011 19:48	1	GEF
4-Bromophenyl phenyl ether	101-55-3	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
4-Chloro-3-methylphenol	59-50-7	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
4-Chloroaniline	106-47-8	0.0504	U		0.0466	0.330	0.0504	mg/Kg	62025	07/20/2011 19:48	1	GEF
4-Chlorophenyl phenyl ether	7005-72-3	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
4-Nitroaniline	100-01-6	0.0304	U		0.0281	0.330	0.0304	mg/Kg	62025	07/20/2011 19:48	1	GEF
4-Nitrophenol	100-02-7	0.0330	U		0.0305	0.330	0.0330	mg/Kg	62025	07/20/2011 19:48	1	GEF
Acenaphthene	83-32-9	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Acenaphthylene	208-96-8	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Anthracene	120-12-7	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Benzo[a]anthracene	56-55-3	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Benzo[a]pyrene	50-32-8	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Benzo[b]fluoranthene	205-99-2	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcon Refinery, Ingleside  
SDG Number: Falcon Refinery, Ingleside

**Client Sample ID:** Comp-C-18-30

Lab Sample ID: 560-27063-3

Client Matrix: Solid

Date Sampled: 07/14/2011 11:00  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
Benzo[g,h,i]perylene	191-24-2	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Benzo[k]fluoranthene	207-08-9	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Benzyl alcohol	100-51-6	0.0265	U		0.0245	0.330	0.0265	mg/Kg	62025	07/20/2011 19:48	1	GEF
Bis(2-chloroethoxy)methane	111-91-1	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Bis(2-chloroethyl)ether	111-44-4	0.0405	U		0.0374	0.330	0.0405	mg/Kg	62025	07/20/2011 19:48	1	GEF
Bis(2-ethylhexyl) phthalate	117-81-7	0.0270	J		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Butyl benzyl phthalate	85-68-7	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Chrysene	218-01-9	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Di-n-butyl phthalate	84-74-2	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Di-n-octyl phthalate	117-84-0	0.0202	U		0.0187	0.330	0.0202	mg/Kg	62025	07/20/2011 19:48	1	GEF
Dibenz(a,h)anthracene	53-70-3	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Dibenzofuran	132-64-9	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Diethyl phthalate	84-66-2	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Dimethyl phthalate	131-11-3	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Fluoranthene	206-44-0	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Fluorene	86-73-7	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Hexachlorobenzene	118-74-1	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Hexachlorobutadiene	87-68-3	0.0484	U		0.0447	0.330	0.0484	mg/Kg	62025	07/20/2011 19:48	1	GEF
Hexachlorocyclopentadiene	77-47-4	0.108	U		0.100	0.330	0.108	mg/Kg	62025	07/20/2011 19:48	1	GEF
Hexachloroethane	67-72-1	0.0542	U		0.0501	0.330	0.0542	mg/Kg	62025	07/20/2011 19:48	1	GEF
Indeno[1,2,3-cd]pyrene	193-39-5	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Isophorone	78-59-1	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
N-Nitrosodi-n-propylamine	621-64-7	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
N-Nitrosodiphenylamine	86-30-6	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Naphthalene	91-20-3	0.0451	U		0.0417	0.330	0.0451	mg/Kg	62025	07/20/2011 19:48	1	GEF
Nitrobenzene	98-95-3	0.0394	U		0.0364	0.330	0.0394	mg/Kg	62025	07/20/2011 19:48	1	GEF
Pentachlorophenol	87-86-5	0.108	U		0.100	0.330	0.108	mg/Kg	62025	07/20/2011 19:48	1	GEF
Phenanthrene	85-01-8	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Phenol	108-95-2	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF
Pyrene	129-00-0	0.0181	U		0.0167	0.330	0.0181	mg/Kg	62025	07/20/2011 19:48	1	GEF

**Surrogates**

Test Method	CAS Number	QC	Result	True Value	% Rec.	QC Limits	Flag	Instrument	Prep Batch	Analysis Date/Time	D.F.	Analyst
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**Surrogates**

Test Method	CAS Number	QC	Result	True Value	% Rec.	QC Limits	Flag	Instrument	Prep Batch	Analysis Date/Time	D.F.	Analyst
2,4,6-Tribromophenol	118-79-6		5.54	5.41	102	30-131		SVGCMS# 2	61801	07/20/2011 19:48	1	GEF
2-Fluorobiphenyl	321-60-8		2.70	3.61	75	57-130		SVGCMS# 2	61801	07/20/2011 19:48	1	GEF
2-Fluorophenol	367-12-4		3.55	5.41	66	48-130		SVGCMS# 2	61801	07/20/2011 19:48	1	GEF
Nitrobenzene-d5	4165-60-0		2.57	3.61	71	48-130		SVGCMS# 2	61801	07/20/2011 19:48	1	GEF
Phenol-d5	4165-62-2		3.83	5.41	71	56-130		SVGCMS# 2	61801	07/20/2011 19:48	1	GEF
Terphenyl-d14	1718-51-0		2.90	3.61	80	58-130		SVGCMS# 2	61801	07/20/2011 19:48	1	GEF

**Analytical Data**

TRC Environmental Corporation  
ATTN: Mr. Chris Mansuri

Job Number: 560-27063-1  
Project: Falcoln Refinery, Ingleside  
SDG Number: Falcoln Refinery, Ingleside

**Client Sample ID:** Comp-C-18-30

Lab Sample ID: 560-27063-3  
Client Matrix: Solid

Date Sampled: 07/14/2011 11:00  
Date Received: 07/14/2011 15:10

Test Method	CAS Number	Result	Q	Flag	MDL	MQL	SDL	Unit	Batch	Analysis Date/Time	D.F.	Analyst
<b>Method:</b> SW846 9045D,Solid pH	STL00204	8.34			0.100	0.100	0.100	SU	61881	07/18/2011 10:35	1	AW

## DATA REPORTING QUALIFIERS

Client: TRC Environmental Corporation

Job Number: 560-27063-1

Sdg Number:

Lab Section	Qualifier	Description
GC/MS VOA	U	Analyte was not detected at or above the SDL.
	N	MS, MSD: Spike recovery exceeds upper or lower control limits.
	J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
	N	RPD of the MS and MSD exceeds the control limits
GC/MS Semi VOA	U	Analyte was not detected at or above the SDL.
	J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
Metals	U	Analyte was not detected at or above the SDL.
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
General Chemistry	U	Analyte was not detected at or above the SDL.
	N	MS, MSD: Spike recovery exceeds upper or lower control limits.

# **QUALITY CONTROL RESULTS**

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>GC/MS VOA</b>					
<b>Analysis Batch:560-61803</b>					
LCS 560-61803/3	Lab Control Sample	T	Solid	8260B	
MB 560-61803/6	Method Blank	T	Solid	8260B	
560-27063-1	Comp-A-0-6	T	Solid	8260B	
560-27063-1MS	Matrix Spike	T	Solid	8260B	
560-27063-1MSD	Matrix Spike Duplicate	T	Solid	8260B	
560-27063-2	Comp-B-6-18	T	Solid	8260B	
560-27063-3	Comp-C-18-30	T	Solid	8260B	

#### Report Basis

T = Total

### GC/MS Semi VOA

Prep Batch: 560-61801	Lab Control Sample	T	Solid	3550B
LCS 560-61801/2-A	Method Blank	T	Solid	3550B
MB 560-61801/1-A	Comp-A-0-6	T	Solid	3550B
560-27063-1	Matrix Spike	T	Solid	3550B
560-27063-1MS	Matrix Spike Duplicate	T	Solid	3550B
560-27063-2	Comp-B-6-18	T	Solid	3550B
560-27063-3	Comp-C-18-30	T	Solid	3550B

#### **Analysis Batch:560-62025**

LCS 560-61801/2-A	Lab Control Sample	T	Solid	8270C	560-61801
MB 560-61801/1-A	Method Blank	T	Solid	8270C	560-61801
560-27063-1	Comp-A-0-6	T	Solid	8270C	560-61801
560-27063-1MS	Matrix Spike	T	Solid	8270C	560-61801
560-27063-1MSD	Matrix Spike Duplicate	T	Solid	8270C	560-61801
560-27063-2	Comp-B-6-18	T	Solid	8270C	560-61801
560-27063-3	Comp-C-18-30	T	Solid	8270C	560-61801

#### Report Basis

T = Total

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1

Sdg Number:

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>Metals</b>					
<b>Analysis Batch:560-62082</b>					
LCS 560-62089/5-A					
LCS 560-62089/5-A	Lab Control Sample	T	Solid	7471A	560-62089
MB 560-62089/4-A	Method Blank	T	Solid	7471A	560-62089
560-27063-1	Comp-A-0-6	T	Solid	7471A	560-62089
560-27063-1MS	Matrix Spike	T	Solid	7471A	560-62089
560-27063-1MSD	Matrix Spike Duplicate	T	Solid	7471A	560-62089
560-27063-2	Comp-B-6-18	T	Solid	7471A	560-62089
560-27063-3	Comp-C-18-30	T	Solid	7471A	560-62089
<b>Prep Batch: 560-62089</b>					
LCS 560-62089/5-A	Lab Control Sample	T	Solid	7471A	
MB 560-62089/4-A	Method Blank	T	Solid	7471A	
560-27063-1	Comp-A-0-6	T	Solid	7471A	
560-27063-1MS	Matrix Spike	T	Solid	7471A	
560-27063-1MSD	Matrix Spike Duplicate	T	Solid	7471A	
560-27063-2	Comp-B-6-18	T	Solid	7471A	
560-27063-3	Comp-C-18-30	T	Solid	7471A	
<b>Prep Batch: 560-62099</b>					
LCS 560-62099/2-A	Lab Control Sample	T	Solid	3050B	
MB 560-62099/1-A	Method Blank	T	Solid	3050B	
560-27063-A-1-F MSDMSD	Matrix Spike Duplicate	T	Solid	3050B	
560-27063-1	Comp-A-0-6	T	Solid	3050B	
560-27063-1MS	Matrix Spike	T	Solid	3050B	
560-27063-2	Comp-B-6-18	T	Solid	3050B	
560-27063-3	Comp-C-18-30	T	Solid	3050B	
<b>Prep Batch: 560-62112</b>					
MB 560-62112/31-A	Method Blank	S	Solid	20B	
560-27063-1	Comp-A-0-6	S	Solid	20B	
560-27063-2	Comp-B-6-18	S	Solid	20B	
560-27063-3	Comp-C-18-30	S	Solid	20B	
<b>Analysis Batch:560-62161</b>					
LCS 560-62099/2-A	Lab Control Sample	T	Solid	6010B	560-62099
MB 560-62099/1-A	Method Blank	T	Solid	6010B	560-62099
560-27063-A-1-F MSDMSD	Matrix Spike Duplicate	T	Solid	6010B	560-62099
560-27063-1	Comp-A-0-6	T	Solid	6010B	560-62099
560-27063-1MS	Matrix Spike	T	Solid	6010B	560-62099
560-27063-2	Comp-B-6-18	T	Solid	6010B	560-62099
560-27063-3	Comp-C-18-30	T	Solid	6010B	560-62099

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1

Sdg Number:

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>Metals</b>					
<b>Analysis Batch:560-62200</b>					
MB 560-62112/31-A	Method Blank	S	Solid	20B	560-62112
560-27063-1	Comp-A-0-6	S	Solid	20B	560-62112
560-27063-2	Comp-B-6-18	S	Solid	20B	560-62112
560-27063-3	Comp-C-18-30	S	Solid	20B	560-62112

**Report Basis**

S = Soluble

T = Total

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1

Sdg Number:

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>General Chemistry</b>					
<b>Analysis Batch:600-58719</b>					
LCS 600-58719/17	Lab Control Sample	T	Solid	351.2	
MB 600-58719/16	Method Blank	T	Solid	351.2	
560-27063-1	Comp-A-0-6	T	Solid	351.2	
560-27063-1DU	Duplicate	T	Solid	351.2	
560-27063-1MS	Matrix Spike	T	Solid	351.2	
560-27063-2	Comp-B-6-18	T	Solid	351.2	
560-27063-3	Comp-C-18-30	T	Solid	351.2	
<b>Prep Batch: 560-61782</b>					
LCS 560-61782/2-A	Lab Control Sample	S	Solid	DI Leach	
MB 560-61782/1-A	Method Blank	S	Solid	DI Leach	
560-27063-1	Comp-A-0-6	S	Solid	DI Leach	
560-27063-2	Comp-B-6-18	S	Solid	DI Leach	
560-27063-3	Comp-C-18-30	S	Solid	DI Leach	
<b>Analysis Batch:560-61826</b>					
LCS 560-61828/8-A	Lab Control Sample	S	Solid	SM 2510B	
MB 560-61828/7-A	Method Blank	S	Solid	SM 2510B	
560-27063-1	Comp-A-0-6	S	Solid	SM 2510B	
560-27063-1DU	Duplicate	S	Solid	SM 2510B	
560-27063-2	Comp-B-6-18	S	Solid	SM 2510B	
560-27063-3	Comp-C-18-30	S	Solid	SM 2510B	
<b>Prep Batch: 560-61828</b>					
LCS 560-61828/8-A	Lab Control Sample	S	Solid	DI Leach	
MB 560-61828/7-A	Method Blank	S	Solid	DI Leach	
560-27063-1	Comp-A-0-6	S	Solid	DI Leach	
560-27063-1DU	Duplicate	S	Solid	DI Leach	
560-27063-2	Comp-B-6-18	S	Solid	DI Leach	
560-27063-3	Comp-C-18-30	S	Solid	DI Leach	
<b>Analysis Batch:560-61832</b>					
560-27063-1	Comp-A-0-6	T	Solid	Moisture	
560-27063-2	Comp-B-6-18	T	Solid	Moisture	
560-27063-3	Comp-C-18-30	T	Solid	Moisture	
<b>Analysis Batch:560-61854</b>					
LCS 560-61782/2-A	Lab Control Sample	S	Solid	9056	
MB 560-61782/1-A	Method Blank	S	Solid	9056	
560-27063-1	Comp-A-0-6	S	Solid	9056	
560-27063-2	Comp-B-6-18	S	Solid	9056	
560-27063-3	Comp-C-18-30	S	Solid	9056	

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>General Chemistry</b>					
<b>Analysis Batch:560-61881</b>					
LCS 560-61881/2	Lab Control Sample	T	Solid	9045D	
560-27063-1	Comp-A-0-6	T	Solid	9045D	
560-27063-1DU	Duplicate	T	Solid	9045D	
560-27063-2	Comp-B-6-18	T	Solid	9045D	
560-27063-3	Comp-C-18-30	T	Solid	9045D	
<b>Analysis Batch:560-62348</b>					
560-27063-1	Comp-A-0-6	T	Solid	Total Nitrogen	
560-27063-2	Comp-B-6-18	T	Solid	Total Nitrogen	
560-27063-3	Comp-C-18-30	T	Solid	Total Nitrogen	

**Report Basis**

S = Soluble

T = Total

**Quality Control Results**

Client: TRC Environmental Corporation

Job Number: 560-27063-1

Sdg Number:

**Surrogate Recovery Report****8260B Volatile Organic Compounds (GC/MS)****Client Matrix: Solid**

Lab Sample ID	Client Sample ID	DBFM %Rec	DCA %Rec	TOL %Rec	BFB %Rec
560-27063-1	Comp-A-0-6	93	101	98	89
560-27063-2	Comp-B-6-18	92	100	97	92
560-27063-3	Comp-C-18-30	92	98	94	91
MB 560-61803/6		88	96	98	95
LCS 560-61803/3		95	94	98	100
560-27063-1 MS	Comp-A-0-6 MS	95	95	97	90
560-27063-1 MSD	Comp-A-0-6 MSD	92	92	93	87

**Surrogate****Acceptance Limits**

DBFM = Dibromofluoromethane (Surr)	63-136
DCA = 1,2-Dichloroethane-d4 (Surr)	70-152
TOL = Toluene-d8 (Surr)	69-139
BFB = 4-Bromofluorobenzene (Surr)	61-130

**Quality Control Results**

Client: TRC Environmental Corporation

Job Number: 560-27063-1

Sdg Number:

**Surrogate Recovery Report****8270C Semivolatile Organic Compounds (GC/MS)****Client Matrix: Solid**

Lab Sample ID	Client Sample ID	2FP %Rec	PHL %Rec	NBZ %Rec	FBP %Rec	TBP %Rec	TPH %Rec
560-27063-1	Comp-A-0-6	72	76	78	83	100	83
560-27063-2	Comp-B-6-18	66	71	71	76	106	83
560-27063-3	Comp-C-18-30	66	71	71	75	102	80
MB 560-61801/1-A		72	77	77	79	93	79
LCS 560-61801/2-A		75	79	78	85	96	83
560-27063-1 MS	Comp-A-0-6 MS	77	76	74	84	94	85
560-27063-1 MSD	Comp-A-0-6 MSD	68	76	73	84	98	85

**Surrogate****Acceptance Limits**

2FP = 2-Fluorophenol	48-130
PHL = Phenol-d5	56-130
NBZ = Nitrobenzene-d5	48-130
FBP = 2-Fluorobiphenyl	57-130
TBP = 2,4,6-Tribromophenol	30-131
TPH = Terphenyl-d14	58-130

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

### Method Blank - Batch: 560-61803

### Method: 8260B

### Preparation: 5030B

Lab Sample ID:	MB 560-61803/6	Analysis Batch:	560-61803	Instrument ID:	VGCMS#3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	07151106.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	07/15/2011 1117	Units:	mg/Kg	Final Weight/Volume:	5 mL
Prep Date:	07/15/2011 1117				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Acetone	0.00720	U	0.00720	0.0500
Acetonitrile	0.0370	U	0.0370	0.0500
Benzene	0.000230	U	0.000230	0.00500
Bromoform	0.000510	U	0.000510	0.00500
Bromomethane	0.00110	U	0.00110	0.00500
2-Butanone (MEK)	0.00100	U	0.00100	0.00500
Carbon disulfide	0.00100	U	0.00100	0.00500
Carbon tetrachloride	0.000510	U	0.000510	0.00500
Chlorobenzene	0.000230	U	0.000230	0.00500
Chlorodibromomethane	0.000640	U	0.000640	0.00500
Chloroethane	0.000260	U	0.000260	0.00500
Chloroform	0.000870	U	0.000870	0.00500
Chloromethane	0.00120	U	0.00120	0.00500
cis-1,2-Dichloroethene	0.000570	U	0.000570	0.00500
cis-1,3-Dichloropropene	0.000141	U	0.000141	0.00500
Dibromomethane	0.000710	U	0.000710	0.00500
Dichlorobromomethane	0.000190	U	0.000190	0.00500
Dichlorodifluoromethane	0.000730	U	0.000730	0.00500
1,1-Dichloroethane	0.000590	U	0.000590	0.00500
1,2-Dichloroethane	0.000520	U	0.000520	0.00500
1,1-Dichloroethene	0.000190	U	0.000190	0.00500
2,2-Dichloropropane	0.000840	U	0.000840	0.00500
1,2-Dichloropropane	0.000150	U	0.000150	0.00500
1,3-Dichloropropane	0.000240	U	0.000240	0.00500
1,1-Dichloropropene	0.000520	U	0.000520	0.00500
1,4-Dioxane	0.0190	U	0.0190	0.100
Ethyl acetate	0.00120	U	0.00120	0.00500
Ethylbenzene	0.000220	U	0.000220	0.00500
Ethylene Dibromide	0.000170	U	0.000170	0.00500
Ethyl ether	0.000170	U	0.000170	0.00500
Ethyl methacrylate	0.000510	U	0.000510	0.00500
2-Hexanone	0.00120	U	0.00120	0.00500
Iodomethane	0.000800	U	0.000800	0.00500
Methylene Chloride	0.00500	U	0.00500	0.0250
Methyl methacrylate	0.00110	U	0.00110	0.00500
4-Methyl-2-pentanone (MIBK)	0.000930	U	0.000930	0.00500
Methyl tert-butyl ether	0.000610	U	0.000610	0.00500
2-Nitropropane	0.000520	U	0.000520	0.00500
Styrene	0.000200	U	0.000200	0.00500
1,1,2,2-Tetrachloroethane	0.000380	U	0.000380	0.00500
Tetrachloroethene	0.000740	U	0.000740	0.00500
Toluene	0.000560	U	0.000560	0.00500
trans-1,2-Dichloroethene	0.000500	U	0.000500	0.00500
trans-1,3-Dichloropropene	0.000520	U	0.000520	0.00500
1,2,3-Trichlorobenzene	0.000440	U	0.000440	0.00500

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Method Blank - Batch: 560-61803**

**Method: 8260B**

**Preparation: 5030B**

Lab Sample ID:	MB 560-61803/6	Analysis Batch:	560-61803	Instrument ID:	VGCMS#3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	07151106.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	07/15/2011 1117	Units:	mg/Kg	Final Weight/Volume:	5 mL
Prep Date:	07/15/2011 1117				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1-Trichloroethane	0.000700	U	0.000700	0.00500
1,1,2-Trichloroethane	0.000500	U	0.000500	0.00500
Trichloroethene	0.000280	U	0.000280	0.00500
Trichlorofluoromethane	0.000500	U	0.000500	0.00500
1,2,3-Trichloropropane	0.000760	U	0.000760	0.00500
1,1,2-Trichloro-1,2,2-trifluoroethane	0.000670	U	0.000670	0.00500
1,3,5-Trimethylbenzene	0.000210	U	0.000210	0.00500
1,2,4-Trimethylbenzene	0.000200	U	0.000200	0.00500
Vinyl acetate	0.00110	U	0.00110	0.00500
Vinyl chloride	0.000600	U	0.000600	0.00500
Xylenes, Total	0.000360	U	0.000360	0.0150
Surrogate	% Rec	Acceptance Limits		
Dibromofluoromethane (Surr)	88	63 - 136		
1,2-Dichloroethane-d4 (Surr)	96	70 - 152		
Toluene-d8 (Surr)	98	69 - 139		
4-Bromofluorobenzene (Surr)	95	61 - 130		

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

### Lab Control Sample - Batch: 560-61803

**Method: 8260B**

**Preparation: 5030B**

Lab Sample ID:	LCS 560-61803/3	Analysis Batch:	560-61803	Instrument ID:	VGCMS#3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	07151103.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	07/15/2011 1001	Units:	mg/Kg	Final Weight/Volume:	5 mL
Prep Date:	07/15/2011 1001				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acetone	0.0500	0.05060	101	31 - 172	
Acetonitrile	0.500	0.4569	91	10 - 200	
Benzene	0.0500	0.04820	96	70 - 130	
Bromoform	0.0500	0.04560	91	55 - 138	
Bromomethane	0.0500	0.04730	95	40 - 148	
2-Butanone (MEK)	0.0500	0.05080	102	43 - 149	
Carbon disulfide	0.0500	0.05580	112	69 - 154	
Carbon tetrachloride	0.0500	0.05060	101	70 - 130	
Chlorobenzene	0.0500	0.04950	99	70 - 130	
Chlorodibromomethane	0.0500	0.05050	101	70 - 130	
Chloroethane	0.0500	0.05220	104	42 - 147	
Chloroform	0.0500	0.04680	94	70 - 130	
Chloromethane	0.0500	0.05290	106	46 - 135	
cis-1,2-Dichloroethene	0.0500	0.04760	95	69 - 130	
cis-1,3-Dichloropropene	0.0500	0.04940	99	64 - 131	
Dibromomethane	0.0500	0.04720	94	70 - 130	
Dichlorobromomethane	0.0500	0.04910	98	70 - 130	
Dichlorodifluoromethane	0.0500	0.04780	96	16 - 154	
1,1-Dichloroethane	0.0500	0.04720	94	70 - 130	
1,2-Dichloroethane	0.0500	0.04650	93	70 - 130	
1,1-Dichloroethene	0.0500	0.04780	96	66 - 130	
2,2-Dichloropropane	0.0500	0.05190	104	66 - 133	
1,2-Dichloropropane	0.0500	0.04840	97	70 - 130	
1,3-Dichloropropane	0.0500	0.04830	97	70 - 130	
1,1-Dichloropropene	0.0500	0.05010	100	70 - 130	
1,4-Dioxane	1.00	1.047	105	24 - 172	
Ethyl acetate	0.0500	0.04780	96	46 - 164	
Ethylbenzene	0.0500	0.05090	102	70 - 130	
Ethylene Dibromide	0.0500	0.04920	98	70 - 131	
Ethyl ether	0.0500	0.04660	93	62 - 130	
Ethyl methacrylate	0.0500	0.05140	103	61 - 151	
2-Hexanone	0.0500	0.05440	109	37 - 170	
Iodomethane	0.0500	0.04910	98	70 - 147	
Methylene Chloride	0.0500	0.04480	90	65 - 130	
Methyl methacrylate	0.0500	0.04420	88	56 - 139	
4-Methyl-2-pentanone (MIBK)	0.0500	0.05390	108	42 - 159	
Methyl tert-butyl ether	0.0500	0.04730	95	55 - 144	
2-Nitropropane	0.0500	0.04340	87	32 - 158	
Styrene	0.0500	0.05130	103	67 - 133	
1,1,2,2-Tetrachloroethane	0.0500	0.05030	101	69 - 130	
Tetrachloroethene	0.0500	0.04900	98	66 - 130	
Toluene	0.0500	0.04930	99	70 - 130	
trans-1,2-Dichloroethene	0.0500	0.04740	95	69 - 130	
trans-1,3-Dichloropropene	0.0500	0.04970	99	62 - 132	
1,2,3-Trichlorobenzene	0.0500	0.05290	106	58 - 146	
1,1,1-Trichloroethane	0.0500	0.05000	100	70 - 130	

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

### Lab Control Sample - Batch: 560-61803

**Method: 8260B**

**Preparation: 5030B**

Lab Sample ID:	LCS 560-61803/3	Analysis Batch:	560-61803	Instrument ID:	VGCMS#3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	07151103.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	07/15/2011 1001	Units:	mg/Kg	Final Weight/Volume:	5 mL
Prep Date:	07/15/2011 1001				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1,2-Trichloroethane	0.0500	0.04790	96	70 - 130	
Trichloroethene	0.0500	0.04950	99	70 - 130	
Trichlorofluoromethane	0.0500	0.05280	106	61 - 130	
1,2,3-Trichloropropane	0.0500	0.04870	97	70 - 142	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.0500	0.05060	101	51 - 130	
1,3,5-Trimethylbenzene	0.0500	0.05160	103	70 - 130	
1,2,4-Trimethylbenzene	0.0500	0.05120	102	70 - 130	
Vinyl acetate	0.0500	0.05900	118	56 - 175	
Vinyl chloride	0.0500	0.04900	98	50 - 135	
Xylenes, Total	0.150	0.1538	103	70 - 130	
Surrogate		% Rec		Acceptance Limits	
Dibromofluoromethane (Surr)		95		63 - 136	
1,2-Dichloroethane-d4 (Surr)		94		70 - 152	
Toluene-d8 (Surr)		98		69 - 139	
4-Bromofluorobenzene (Surr)		100		61 - 130	

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 560-61803**

**Method: 8260B  
Preparation: 5030B**

MS Lab Sample ID:	560-27063-1	Analysis Batch:	560-61803	Instrument ID:	VGCMS#3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	07151112.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5.66 g
Analysis Date:	07/15/2011 1349			Final Weight/Volume:	5 mL
Prep Date:	07/15/2011 1349				
Leach Date:	N/A				

MSD Lab Sample ID:	560-27063-1	Analysis Batch:	560-61803	Instrument ID:	VGCMS#3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	07151113.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5.61 g
Analysis Date:	07/15/2011 1414			Final Weight/Volume:	5 mL
Prep Date:	07/15/2011 1414				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Acetone	88	90	10 - 200	2.2	30.0		
Acetonitrile	83	89	10 - 194	7.6	30.0		
Benzene	88	95	56 - 132	8.3	30.0		
Bromoform	75	82	51 - 130	9.3	30.0		
Bromomethane	93	92	37 - 147	1.0	30.0		
2-Butanone (MEK)	90	91	11 - 164	2.0	30.0		
Carbon disulfide	97	89	51 - 151	7.7	30.0		
Carbon tetrachloride	87	94	57 - 130	8.6	30.0		
Chlorobenzene	87	95	62 - 130	10.6	30.0		
Chlorodibromomethane	88	98	61 - 130	11.7	30.0		
Chloroethane	95	99	44 - 136	4.8	30.0		
Chloroform	86	92	61 - 133	7.6	30.0		
Chloromethane	99	102	44 - 131	4.3	30.0		
cis-1,2-Dichloroethene	89	93	56 - 130	5.7	30.0		
cis-1,3-Dichloropropene	87	94	52 - 130	8.0	30.0		
Dibromomethane	85	91	56 - 130	7.9	30.0		
Dichlorobromomethane	87	96	66 - 130	10.1	30.0		
Dichlorodifluoromethane	85	88	10 - 152	4.4	30.0		
1,1-Dichloroethane	87	93	55 - 133	6.9	30.0		
1,2-Dichloroethane	86	93	55 - 132	8.7	30.0		
1,1-Dichloroethene	86	91	50 - 134	7.2	30.0		
2,2-Dichloropropane	90	94	59 - 132	4.4	30.0		
1,2-Dichloropropane	89	96	61 - 130	8.4	30.0		
1,3-Dichloropropane	92	102	62 - 130	11.6	30.0		
1,1-Dichloropropene	88	96	57 - 130	9.4	30.0		
1,4-Dioxane	91	101	10 - 182	11.4	30.0		
Ethyl acetate	0	0	10 - 192	NC	30.0	U N	U N
Ethylbenzene	90	98	48 - 138	9.6	30.0		
Ethylene Dibromide	89	100	57 - 130	12.8	30.0		
Ethyl ether	84	94	34 - 151	11.5	30.0		
Ethyl methacrylate	25	14	10 - 168	54.4	30.0		N
2-Hexanone	93	104	33 - 145	11.8	30.0		
Iodomethane	87	85	64 - 151	1.0	30.0		

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 560-61803**

**Method: 8260B  
Preparation: 5030B**

MS Lab Sample ID:	560-27063-1	Analysis Batch:	560-61803	Instrument ID:	VGCMS#3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	07151112.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5.66 g
Analysis Date:	07/15/2011 1349			Final Weight/Volume:	5 mL
Prep Date:	07/15/2011 1349				
Leach Date:	N/A				

MSD Lab Sample ID:	560-27063-1	Analysis Batch:	560-61803	Instrument ID:	VGCMS#3
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	07151113.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5.61 g
Analysis Date:	07/15/2011 1414			Final Weight/Volume:	5 mL
Prep Date:	07/15/2011 1414				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Methylene Chloride	85	92	48 - 147	7.9	30.0		
Methyl methacrylate	121	134	22 - 180	11.4	30.0		
4-Methyl-2-pentanone (MIBK)	97	105	32 - 141	8.2	30.0		
Methyl tert-butyl ether	87	92	26 - 170	6.5	30.0		
2-Nitropropane	75	84	20 - 147	11.7	30.0		
Styrene	84	92	46 - 130	9.5	30.0		
1,1,2,2-Tetrachloroethane	105	120	19 - 178	14.2	30.0		
Tetrachloroethene	85	98	66 - 130	15.1	30.0		
Toluene	88	95	48 - 135	8.7	30.0		
trans-1,2-Dichloroethene	87	92	55 - 132	5.8	30.0		
trans-1,3-Dichloropropene	87	95	40 - 135	9.7	30.0		
1,2,3-Trichlorobenzene	45	48	10 - 136	6.5	30.0		
1,1,1-Trichloroethane	88	94	60 - 130	7.7	30.0		
1,1,2-Trichloroethane	90	102	53 - 138	13.0	30.0		
Trichloroethene	87	95	57 - 130	9.7	30.0		
Trichlorofluoromethane	89	96	44 - 130	8.9	30.0		
1,2,3-Trichloropropane	106	123	48 - 171	15.4	30.0		
1,1,2-Trichloro-1,2,2-trifluoroethane	88	91	38 - 130	4.2	30.0		
1,3,5-Trimethylbenzene	96	109	55 - 137	13.6	30.0		
1,2,4-Trimethylbenzene	95	106	51 - 139	12.3	30.0		
Vinyl acetate	0	0	10 - 186	NC	30.0	U N	U N
Vinyl chloride	89	93	41 - 135	4.6	30.0		
Xylenes, Total	88	96	49 - 137	9.7	30.0		
Surrogate	MS % Rec		MSD % Rec		Acceptance Limits		
Dibromofluoromethane (Surr)	95		92		63 - 136		
1,2-Dichloroethane-d4 (Surr)	95		92		70 - 152		
Toluene-d8 (Surr)	97		93		69 - 139		
4-Bromofluorobenzene (Surr)	90		87		61 - 130		

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 560-61803**

**Method: 8260B  
Preparation: 5030B**

MS Lab Sample ID:	560-27063-1	Units:	mg/Kg	MSD Lab Sample ID:	560-27063-1
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	07/15/2011 1349			Analysis Date:	07/15/2011 1414
Prep Date:	07/15/2011 1349			Prep Date:	07/15/2011 1414
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Acetone	0.0136 J	0.0462	0.0466	0.05406	0.05529
Acetonitrile	0.0341 U	0.462	0.466	0.3857	0.4161
Benzene	0.000212 U	0.0462	0.0466	0.04057	0.04410
Bromoform	0.000471 U	0.0462	0.0466	0.03484	0.03823
Bromomethane	0.00101 U	0.0462	0.0466	0.04279	0.04308
2-Butanone (MEK)	0.000923 U	0.0462	0.0466	0.04168	0.04252
Carbon disulfide	0.000923 U	0.0462	0.0466	0.04473	0.04140
Carbon tetrachloride	0.000471 U	0.0462	0.0466	0.04039	0.04401
Chlorobenzene	0.000212 U	0.0462	0.0466	0.04002	0.04448
Chlorodibromomethane	0.000590 U	0.0462	0.0466	0.04057	0.04560
Chloroethane	0.000240 U	0.0462	0.0466	0.04381	0.04597
Chloroform	0.000803 U	0.0462	0.0466	0.03983	0.04298
Chloromethane	0.00111 U	0.0462	0.0466	0.04575	0.04774
cis-1,2-Dichloroethene	0.000526 U	0.0462	0.0466	0.04094	0.04336
cis-1,3-Dichloropropene	0.000130 U	0.0462	0.0466	0.04039	0.04373
Dibromomethane	0.000655 U	0.0462	0.0466	0.03937	0.04261
Dichlorobromomethane	0.000175 U	0.0462	0.0466	0.04029	0.04457
Dichlorodifluoromethane	0.000673 U	0.0462	0.0466	0.03909	0.04084
1,1-Dichloroethane	0.000544 U	0.0462	0.0466	0.04039	0.04326
1,2-Dichloroethane	0.000480 U	0.0462	0.0466	0.03955	0.04317
1,1-Dichloroethene	0.000175 U	0.0462	0.0466	0.03965	0.04261
2,2-Dichloropropane	0.000775 U	0.0462	0.0466	0.04177	0.04364
1,2-Dichloropropane	0.000138 U	0.0462	0.0466	0.04122	0.04485
1,3-Dichloropropane	0.000221 U	0.0462	0.0466	0.04242	0.04765
1,1-Dichloropropene	0.000480 U	0.0462	0.0466	0.04066	0.04466
1,4-Dioxane	0.0175 U	0.924	0.932	0.8406	0.9423
Ethyl acetate	0.00111 U	0.0462	0.0466	0.00111 UN	0.00112 UN
Ethylbenzene	0.000203 U	0.0462	0.0466	0.04140	0.04560
Ethylene Dibromide	0.000157 U	0.0462	0.0466	0.04094	0.04653
Ethyl ether	0.000157 U	0.0462	0.0466	0.03891	0.04364
Ethyl methacrylate	0.000471 U	0.0462	0.0466	0.01155	0.006611 N
2-Hexanone	0.00111 U	0.0462	0.0466	0.04307	0.04849
Iodomethane	0.000738 U	0.0462	0.0466	0.04002	0.03963
Methylene Chloride	0.00461 U	0.0462	0.0466	0.03946	0.04270
Methyl methacrylate	0.00101 U	0.0462	0.0466	0.05582	0.06257
4-Methyl-2-pentanone (MIBK)	0.000858 U	0.0462	0.0466	0.04492	0.04877
Methyl tert-butyl ether	0.000563 U	0.0462	0.0466	0.04011	0.04280
2-Nitropropane	0.000480 U	0.0462	0.0466	0.03484	0.03916
Styrene	0.000185 U	0.0462	0.0466	0.03882	0.04270
1,1,2,2-Tetrachloroethane	0.000351 U	0.0462	0.0466	0.04861	0.05604
Tetrachloroethene	0.000683 U	0.0462	0.0466	0.03937	0.04578
Toluene	0.000517 U	0.0462	0.0466	0.04066	0.04438
trans-1,2-Dichloroethene	0.000461 U	0.0462	0.0466	0.04039	0.04280

**Quality Control Results**

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 560-61803****Method: 8260B  
Preparation: 5030B**

MS Lab Sample ID:	560-27063-1	Units:	mg/Kg	MSD Lab Sample ID:	560-27063-1
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	07/15/2011 1349			Analysis Date:	07/15/2011 1414
Prep Date:	07/15/2011 1349			Prep Date:	07/15/2011 1414
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
trans-1,3-Dichloropropene	0.000480 U	0.0462	0.0466	0.04020	0.04429
1,2,3-Trichlorobenzene	0.000406 U	0.0462	0.0466	0.02098	0.02238
1,1,1-Trichloroethane	0.000646 U	0.0462	0.0466	0.04076	0.04401
1,1,2-Trichloroethane	0.000461 U	0.0462	0.0466	0.04168	0.04746
Trichloroethylene	0.000258 U	0.0462	0.0466	0.04011	0.04420
Trichlorofluoromethane	0.000461 U	0.0462	0.0466	0.04103	0.04485
1,2,3-Trichloropropane	0.000701 U	0.0462	0.0466	0.04898	0.05716
1,1,2-Trichloro-1,2,2-trifluoroethane	0.000618 U	0.0462	0.0466	0.04085	0.04261
1,3,5-Trimethylbenzene	0.000194 U	0.0462	0.0466	0.04427	0.05072
1,2,4-Trimethylbenzene	0.000185 U	0.0462	0.0466	0.04371	0.04942
Vinyl acetate	0.00101 U	0.0462	0.0466	0.00102 UN	0.00103 UN
Vinyl chloride	0.000554 U	0.0462	0.0466	0.04131	0.04326
Xylenes, Total	0.000332 U	0.139	0.140	0.1218	0.1343

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Method Blank - Batch: 560-61801**

**Method: 8270C**  
**Preparation: 3550B**

Lab Sample ID:	MB 560-61801/1-A	Analysis Batch:	560-62025	Instrument ID:	SVGCMS#2
Client Matrix:	Solid	Prep Batch:	560-61801	Lab File ID:	07201117.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.27 g
Analysis Date:	07/20/2011 1719	Units:	mg/Kg	Final Weight/Volume:	1 mL
Prep Date:	07/15/2011 0831			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Acenaphthene	0.0166	U	0.0166	0.327
Acenaphthylene	0.0166	U	0.0166	0.327
Anthracene	0.0166	U	0.0166	0.327
Benzo[a]anthracene	0.0166	U	0.0166	0.327
Benzo[a]pyrene	0.0166	U	0.0166	0.327
Benzo[b]fluoranthene	0.0166	U	0.0166	0.327
Benzo[g,h,i]perylene	0.0166	U	0.0166	0.327
Benzo[k]fluoranthene	0.0166	U	0.0166	0.327
Benzyl alcohol	0.0243	U	0.0243	0.327
Bis(2-chloroethoxy)methane	0.0166	U	0.0166	0.327
Bis(2-chloroethyl)ether	0.0371	U	0.0371	0.327
Bis(2-ethylhexyl) phthalate	0.0166	U	0.0166	0.327
4-Bromophenyl phenyl ether	0.0166	U	0.0166	0.327
Butyl benzyl phthalate	0.0166	U	0.0166	0.327
4-Chloroaniline	0.0462	U	0.0462	0.327
4-Chloro-3-methylphenol	0.0166	U	0.0166	0.327
2-Chloronaphthalene	0.0166	U	0.0166	0.327
2-Chlorophenol	0.0276	U	0.0276	0.327
4-Chlorophenyl phenyl ether	0.0166	U	0.0166	0.327
Chrysene	0.0166	U	0.0166	0.327
Dibenz(a,h)anthracene	0.0166	U	0.0166	0.327
Dibenzofuran	0.0166	U	0.0166	0.327
1,3-Dichlorobenzene	0.0434	U	0.0434	0.327
1,4-Dichlorobenzene	0.0454	U	0.0454	0.327
1,2-Dichlorobenzene	0.0516	U	0.0516	0.327
3,3'-Dichlorobenzidine	0.0496	U	0.0496	0.327
2,4-Dichlorophenol	0.0226	U	0.0226	0.327
Diethyl phthalate	0.0166	U	0.0166	0.327
2,4-Dimethylphenol	0.0202	U	0.0202	0.327
Dimethyl phthalate	0.0166	U	0.0166	0.327
Di-n-butyl phthalate	0.0166	U	0.0166	0.327
4,6-Dinitro-2-methylphenol	0.0496	U	0.0496	0.327
2,4-Dinitrophenol	0.0991	U	0.0991	0.327
2,6-Dinitrotoluene	0.0496	U	0.0496	0.327
2,4-Dinitrotoluene	0.0209	U	0.0209	0.327
Di-n-octyl phthalate	0.0185	U	0.0185	0.327
Fluoranthene	0.0166	U	0.0166	0.327
Fluorene	0.0166	U	0.0166	0.327
Hexachlorobenzene	0.0166	U	0.0166	0.327
Hexachlorobutadiene	0.0443	U	0.0443	0.327
Hexachlorocyclopentadiene	0.0991	U	0.0991	0.327
Hexachloroethane	0.0497	U	0.0497	0.327
Indeno[1,2,3-cd]pyrene	0.0166	U	0.0166	0.327
Isophorone	0.0166	U	0.0166	0.327
2-Methylnaphthalene	0.0308	U	0.0308	0.327

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Method Blank - Batch: 560-61801**

**Method: 8270C**  
**Preparation: 3550B**

Lab Sample ID:	MB 560-61801/1-A	Analysis Batch:	560-62025	Instrument ID:	SVGCMS#2
Client Matrix:	Solid	Prep Batch:	560-61801	Lab File ID:	07201117.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.27 g
Analysis Date:	07/20/2011 1719	Units:	mg/Kg	Final Weight/Volume:	1 mL
Prep Date:	07/15/2011 0831			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
2-Methylphenol	0.0327	U	0.0327	0.327
3 & 4 Methylphenol	0.0496	U	0.0496	0.664
Naphthalene	0.0413	U	0.0413	0.327
2-Nitroaniline	0.0220	U	0.0220	0.327
3-Nitroaniline	0.0496	U	0.0496	0.327
4-Nitroaniline	0.0278	U	0.0278	0.327
Nitrobenzene	0.0361	U	0.0361	0.327
2-Nitrophenol	0.0168	U	0.0168	0.327
4-Nitrophenol	0.0302	U	0.0302	0.327
N-Nitrosodi-n-propylamine	0.0166	U	0.0166	0.327
N-Nitrosodiphenylamine	0.0166	U	0.0166	0.327
Pentachlorophenol	0.0991	U	0.0991	0.327
Phenanthrene	0.0166	U	0.0166	0.327
Phenol	0.0166	U	0.0166	0.327
Pyrene	0.0166	U	0.0166	0.327
1,2,4-Trichlorobenzene	0.0453	U	0.0453	0.327
2,4,6-Trichlorophenol	0.0166	U	0.0166	0.327
2,4,5-Trichlorophenol	0.0166	U	0.0166	0.327

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	72	48 - 130
Phenol-d5	77	56 - 130
Nitrobenzene-d5	77	48 - 130
2-Fluorobiphenyl	79	57 - 130
2,4,6-Tribromophenol	93	30 - 131
Terphenyl-d14	79	58 - 130

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

### Lab Control Sample - Batch: 560-61801

**Method: 8270C**

**Preparation: 3550B**

Lab Sample ID:	LCS 560-61801/2-A	Analysis Batch:	560-62025	Instrument ID:	SVGCMS#2
Client Matrix:	Solid	Prep Batch:	560-61801	Lab File ID:	07201118.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.63 g
Analysis Date:	07/20/2011 1744	Units:	mg/Kg	Final Weight/Volume:	1 mL
Prep Date:	07/15/2011 0831			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	3.26	3.030	93	70 - 130	
Acenaphthylene	3.26	3.023	93	70 - 130	
Anthracene	3.26	3.079	94	70 - 130	
Benzo[a]anthracene	3.26	3.265	100	70 - 130	
Benzo[a]pyrene	3.26	3.621	111	70 - 130	
Benzo[b]fluoranthene	3.26	3.337	102	70 - 130	
Benzo[g,h,i]perylene	3.26	3.151	96	70 - 130	
Benzo[k]fluoranthene	3.26	3.010	92	70 - 130	
Benzyl alcohol	3.26	2.866	88	64 - 130	
Bis(2-chloroethoxy)methane	3.26	2.811	86	68 - 130	
Bis(2-chloroethyl)ether	3.26	2.579	79	61 - 130	
Bis(2-ethylhexyl) phthalate	3.26	3.373	103	70 - 130	
4-Bromophenyl phenyl ether	3.26	3.154	97	70 - 130	
Butyl benzyl phthalate	3.26	3.199	98	70 - 130	
4-Chloroaniline	3.26	2.282	70	34 - 130	
4-Chloro-3-methylphenol	3.26	3.229	99	70 - 130	
2-Choronaphthalene	3.26	2.912	89	69 - 130	
2-Chlorophenol	3.26	2.746	84	64 - 130	
4-Chlorophenyl phenyl ether	3.26	3.092	95	70 - 130	
Chrysene	3.26	3.346	102	70 - 130	
Dibenz(a,h)anthracene	3.26	3.232	99	70 - 130	
Dibenzofuran	3.26	2.994	92	70 - 130	
1,3-Dichlorobenzene	3.26	2.674	82	60 - 130	
1,4-Dichlorobenzene	3.26	2.713	83	62 - 130	
1,2-Dichlorobenzene	3.26	2.622	80	59 - 130	
3,3'-Dichlorobenzidine	4.90	3.121	64	41 - 130	
2,4-Dichlorophenol	3.26	3.151	96	70 - 130	
Diethyl phthalate	3.26	3.177	97	70 - 130	
2,4-Dimethylphenol	3.26	3.310	101	70 - 130	
Dimethyl phthalate	3.26	3.069	94	70 - 130	
Di-n-butyl phthalate	3.26	3.079	94	70 - 130	
4,6-Dinitro-2-methylphenol	3.26	2.945	90	66 - 130	
2,4-Dinitrophenol	3.26	2.886	88	54 - 130	
2,6-Dinitrotoluene	3.26	3.088	95	70 - 130	
2,4-Dinitrotoluene	3.26	3.056	94	70 - 130	
Di-n-octyl phthalate	3.26	3.317	102	70 - 130	
Fluoranthene	3.26	3.245	99	70 - 130	
Fluorene	3.26	3.183	97	70 - 130	
Hexachlorobenzene	3.26	3.095	95	70 - 130	
Hexachlorobutadiene	3.26	3.075	94	65 - 130	
Hexachlorocyclopentadiene	3.26	2.341	72	43 - 130	
Hexachloroethane	3.26	2.550	78	59 - 130	
Indeno[1,2,3-cd]pyrene	3.26	3.193	98	70 - 130	
Isophorone	3.26	2.638	81	65 - 130	
2-Methylnaphthalene	3.26	2.984	91	70 - 130	
2-Methylphenol	3.26	2.671	82	66 - 130	

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:**Lab Control Sample - Batch: 560-61801****Method: 8270C****Preparation: 3550B**

Lab Sample ID:	LCS 560-61801/2-A	Analysis Batch:	560-62025	Instrument ID:	SVGCMS#2
Client Matrix:	Solid	Prep Batch:	560-61801	Lab File ID:	07201118.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.63 g
Analysis Date:	07/20/2011 1744	Units:	mg/Kg	Final Weight/Volume:	1 mL
Prep Date:	07/15/2011 0831			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
3 & 4 Methylphenol	6.53	5.524	85	63 - 130	
Naphthalene	3.26	2.883	88	70 - 130	
2-Nitroaniline	3.26	2.951	90	65 - 142	
3-Nitroaniline	3.26	2.445	75	44 - 130	
4-Nitroaniline	3.26	3.219	99	70 - 130	
Nitrobenzene	3.26	2.664	82	62 - 130	
2-Nitrophenol	3.26	2.948	90	69 - 130	
4-Nitrophenol	3.26	3.160	97	62 - 131	
N-Nitrosodi-n-propylamine	3.26	2.498	76	58 - 130	
N-Nitrosodiphenylamine	3.26	2.925	90	70 - 130	
Pentachlorophenol	3.26	3.095	95	51 - 130	
Phenanthrene	3.26	3.082	94	70 - 130	
Phenol	3.26	2.795	86	67 - 130	
Pyrene	3.26	2.929	90	70 - 130	
1,2,4-Trichlorobenzene	3.26	2.932	90	66 - 130	
2,4,6-Trichlorophenol	3.26	3.206	98	70 - 130	
2,4,5-Trichlorophenol	3.26	3.252	100	70 - 130	
Surrogate		% Rec		Acceptance Limits	
2-Fluorophenol		75		48 - 130	
Phenol-d5		79		56 - 130	
Nitrobenzene-d5		78		48 - 130	
2-Fluorobiphenyl		85		57 - 130	
2,4,6-Tribromophenol		96		30 - 131	
Terphenyl-d14		83		58 - 130	

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 560-61801**

**Method: 8270C  
Preparation: 3550B**

MS Lab Sample ID:	560-27063-1	Analysis Batch:	560-62025	Instrument ID:	SVGCMS#2
Client Matrix:	Solid	Prep Batch:	560-61801	Lab File ID:	07201119.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.28 g
Analysis Date:	07/20/2011 1809			Final Weight/Volume:	1 mL
Prep Date:	07/15/2011 0831			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	560-27063-1	Analysis Batch:	560-62025	Instrument ID:	SVGCMS#2
Client Matrix:	Solid	Prep Batch:	560-61801	Lab File ID:	07201120.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	29.99 g
Analysis Date:	07/20/2011 1834			Final Weight/Volume:	1 mL
Prep Date:	07/15/2011 0831			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Acenaphthene	92	93	70 - 130	2	30		
Acenaphthylene	92	94	70 - 130	3	30		
Anthracene	92	96	70 - 130	5	30		
Benzo[a]anthracene	99	100	70 - 130	2	30		
Benzo[a]pyrene	108	111	70 - 130	4	30		
Benzo[b]fluoranthene	102	103	70 - 130	1	30		
Benzo[g,h,i]perylene	94	97	70 - 130	4	30		
Benzo[k]fluoranthene	91	93	70 - 130	3	30		
Benzyl alcohol	84	84	64 - 130	0	30		
Bis(2-chloroethoxy)methane	82	82	68 - 130	1	30		
Bis(2-chloroethyl)ether	77	73	61 - 130	4	30		
Bis(2-ethylhexyl) phthalate	102	109	70 - 130	7	30		
4-Bromophenyl phenyl ether	94	98	70 - 130	5	30		
Butyl benzyl phthalate	96	97	70 - 130	2	30		
4-Chloroaniline	76	84	34 - 130	11	30		
4-Chloro-3-methylphenol	97	98	70 - 130	2	30		
2-Chloronaphthalene	89	90	69 - 130	2	30		
2-Chlorophenol	82	80	64 - 130	1	30		
4-Chlorophenyl phenyl ether	95	96	70 - 130	2	30		
Chrysene	101	104	70 - 130	4	30		
Dibenz(a,h)anthracene	98	101	70 - 130	4	30		
Dibenzofuran	91	91	70 - 130	1	30		
1,3-Dichlorobenzene	78	73	60 - 130	7	30		
1,4-Dichlorobenzene	79	73	62 - 130	8	30		
1,2-Dichlorobenzene	77	73	59 - 130	5	30		
3,3'-Dichlorobenzidine	77	85	41 - 130	12	30		
2,4-Dichlorophenol	93	97	70 - 130	5	30		
Diethyl phthalate	95	98	70 - 130	4	30		
2,4-Dimethylphenol	99	101	70 - 130	3	30		
Dimethyl phthalate	92	96	70 - 130	5	30		
Di-n-butyl phthalate	93	94	70 - 130	2	30		
4,6-Dinitro-2-methylphenol	80	79	66 - 130	0	30		
2,4-Dinitrophenol	74	61	54 - 130	17	30		

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 560-61801**

**Method: 8270C  
Preparation: 3550B**

MS Lab Sample ID:	560-27063-1	Analysis Batch:	560-62025	Instrument ID:	SVGCMS#2
Client Matrix:	Solid	Prep Batch:	560-61801	Lab File ID:	07201119.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.28 g
Analysis Date:	07/20/2011 1809			Final Weight/Volume:	1 mL
Prep Date:	07/15/2011 0831			Injection Volume:	1 uL
Leach Date:	N/A				

MSD Lab Sample ID:	560-27063-1	Analysis Batch:	560-62025	Instrument ID:	SVGCMS#2
Client Matrix:	Solid	Prep Batch:	560-61801	Lab File ID:	07201120.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	29.99 g
Analysis Date:	07/20/2011 1834			Final Weight/Volume:	1 mL
Prep Date:	07/15/2011 0831			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
2,6-Dinitrotoluene	93	97	70 - 130	5	30		
2,4-Dinitrotoluene	94	96	70 - 130	3	30		
Di-n-octyl phthalate	101	106	70 - 130	6	30		
Fluoranthene	97	100	70 - 130	3	30		
Fluorene	97	98	70 - 130	2	30		
Hexachlorobenzene	93	96	70 - 130	4	30		
Hexachlorobutadiene	90	88	65 - 130	1	30		
Hexachlorocyclopentadiene	76	73	43 - 130	3	30		
Hexachloroethane	76	69	59 - 130	9	30		
Indeno[1,2,3-cd]pyrene	96	99	70 - 130	4	30		
Isophorone	79	78	65 - 130	0	30		
2-Methylnaphthalene	90	91	70 - 130	2	30		
2-Methylphenol	81	80	66 - 130	0	30		
3 & 4 Methylphenol	84	83	63 - 130	1	30		
Naphthalene	86	85	70 - 130	0	30		
2-Nitroaniline	87	88	65 - 142	3	30		
3-Nitroaniline	83	89	44 - 130	8	30		
4-Nitroaniline	95	99	70 - 130	5	30		
Nitrobenzene	79	76	62 - 130	3	30		
2-Nitrophenol	87	87	69 - 130	1	30		
4-Nitrophenol	102	96	62 - 131	5	30		
N-Nitrosodi-n-propylamine	74	71	58 - 130	3	30		
N-Nitrosodiphenylamine	86	90	70 - 130	6	30		
Pentachlorophenol	91	96	51 - 130	6	30		
Phenanthrene	93	96	70 - 130	4	30		
Phenol	84	83	67 - 130	0	30		
Pyrene	90	94	70 - 130	5	30		
1,2,4-Trichlorobenzene	88	86	66 - 130	1	30		
2,4,6-Trichlorophenol	98	101	70 - 130	3	30		
2,4,5-Trichlorophenol	101	105	70 - 130	5	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorophenol	77	68	48 - 130
Phenol-d5	76	76	56 - 130

## **Quality Control Results**

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Nitrobenzene-d5	74	73	48 - 130
2-Fluorobiphenyl	84	84	57 - 130
2,4,6-Tribromophenol	94	98	30 - 131
Terphenyl-d14	85	85	58 - 130

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 560-61801**

**Method: 8270C  
Preparation: 3550B**

MS Lab Sample ID:	560-27063-1	Units:	mg/Kg	MSD Lab Sample ID:	560-27063-1
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	07/20/2011 1809			Analysis Date:	07/20/2011 1834
Prep Date:	07/15/2011 0831			Prep Date:	07/15/2011 0831
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Acenaphthene	0.0170 U	3.45	3.49	3.172	3.244
Acenaphthylene	0.0170 U	3.45	3.49	3.168	3.276
Anthracene	0.0170 U	3.45	3.49	3.182	3.359
Benzo[a]anthracene	0.0170 U	3.45	3.49	3.414	3.492
Benzo[a]pyrene	0.0170 U	3.45	3.49	3.718	3.855
Benzo[b]fluoranthene	0.0170 U	3.45	3.49	3.524	3.576
Benzo[g,h,i]perylene	0.0170 U	3.45	3.49	3.255	3.391
Benzo[k]fluoranthene	0.0170 U	3.45	3.49	3.154	3.248
Benzyl alcohol	0.0249 U	3.45	3.49	2.906	2.916
Bis(2-chloroethoxy)methane	0.0170 U	3.45	3.49	2.823	2.850
Bis(2-chloroethyl)ether	0.0380 U	3.45	3.49	2.653	2.540
Bis(2-ethylhexyl) phthalate	0.0383 J	3.45	3.49	3.576	3.830
4-Bromophenyl phenyl ether	0.0170 U	3.45	3.49	3.258	3.429
Butyl benzyl phthalate	0.0170 U	3.45	3.49	3.320	3.394
4-Chloroaniline	0.0474 U	3.45	3.49	2.612	2.916
4-Chloro-3-methylphenol	0.0170 U	3.45	3.49	3.341	3.412
2-Chloronaphthalene	0.0170 U	3.45	3.49	3.078	3.150
2-Chlorophenol	0.0283 U	3.45	3.49	2.823	2.787
4-Chlorophenyl phenyl ether	0.0170 U	3.45	3.49	3.286	3.356
Chrysene	0.0170 U	3.45	3.49	3.493	3.628
Dibenz(a,h)anthracene	0.0170 U	3.45	3.49	3.376	3.520
Dibenzofuran	0.0170 U	3.45	3.49	3.151	3.181
1,3-Dichlorobenzene	0.0445 U	3.45	3.49	2.709	2.536
1,4-Dichlorobenzene	0.0466 U	3.45	3.49	2.747	2.540
1,2-Dichlorobenzene	0.0530 U	3.45	3.49	2.671	2.536
3,3'-Dichlorobenzidine	0.0509 U	5.18	5.23	3.970	4.465
2,4-Dichlorophenol	0.0232 U	3.45	3.49	3.217	3.391
Diethyl phthalate	0.0170 U	3.45	3.49	3.289	3.419
2,4-Dimethylphenol	0.0207 U	3.45	3.49	3.414	3.516
Dimethyl phthalate	0.0170 U	3.45	3.49	3.172	3.345
Di-n-butyl phthalate	0.0170 U	3.45	3.49	3.199	3.276
4,6-Dinitro-2-methylphenol	0.0509 U	3.45	3.49	2.750	2.759
2,4-Dinitrophenol	0.102 U	3.45	3.49	2.543	2.142
2,6-Dinitrotoluene	0.0509 U	3.45	3.49	3.213	3.370
2,4-Dinitrotoluene	0.0215 U	3.45	3.49	3.234	3.331
Di-n-octyl phthalate	0.0190 U	3.45	3.49	3.479	3.712
Fluoranthene	0.0170 U	3.45	3.49	3.358	3.471
Fluorene	0.0170 U	3.45	3.49	3.341	3.422
Hexachlorobenzene	0.0170 U	3.45	3.49	3.217	3.342
Hexachlorobutadiene	0.0455 U	3.45	3.49	3.123	3.080
Hexachlorocyclopentadiene	0.102 U	3.45	3.49	2.633	2.554
Hexachloroethane	0.0510 U	3.45	3.49	2.636	2.410
Indeno[1,2,3-cd]pyrene	0.0170 U	3.45	3.49	3.324	3.454

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 560-61801**

**Method: 8270C  
Preparation: 3550B**

MS Lab Sample ID:	560-27063-1	Units:	mg/Kg	MSD Lab Sample ID:	560-27063-1
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	07/20/2011 1809			Analysis Date:	07/20/2011 1834
Prep Date:	07/15/2011 0831			Prep Date:	07/15/2011 0831
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Isophorone	0.0170 U	3.45	3.49	2.716	2.724
2-Methylnaphthalene	0.0316 U	3.45	3.49	3.096	3.167
2-Methylphenol	0.0336 U	3.45	3.49	2.785	2.787
3 & 4 Methylphenol	0.0509 U	6.91	6.98	5.770	5.805
Naphthalene	0.0424 U	3.45	3.49	2.968	2.969
2-Nitroaniline	0.0226 U	3.45	3.49	2.992	3.070
3-Nitroaniline	0.0509 U	3.45	3.49	2.854	3.087
4-Nitroaniline	0.0286 U	3.45	3.49	3.275	3.447
Nitrobenzene	0.0370 U	3.45	3.49	2.719	2.644
2-Nitrophenol	0.0173 U	3.45	3.49	2.999	3.042
4-Nitrophenol	0.0310 U	3.45	3.49	3.538	3.356
N-Nitrosodi-n-propylamine	0.0170 U	3.45	3.49	2.564	2.480
N-Nitrosodiphenylamine	0.0170 U	3.45	3.49	2.982	3.154
Pentachlorophenol	0.102 U	3.45	3.49	3.154	3.342
Phenanthrene	0.0170 U	3.45	3.49	3.217	3.363
Phenol	0.0170 U	3.45	3.49	2.892	2.881
Pyrene	0.0170 U	3.45	3.49	3.109	3.262
1,2,4-Trichlorobenzene	0.0465 U	3.45	3.49	3.033	3.007
2,4,6-Trichlorophenol	0.0170 U	3.45	3.49	3.396	3.506
2,4,5-Trichlorophenol	0.0170 U	3.45	3.49	3.493	3.656

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

### **Method Blank - Batch: 560-62112**

#### **Method: 20B**

#### **Preparation: 20B**

#### **Soluble**

Lab Sample ID:	MB 560-62112/31-A	Analysis Batch:	560-62200	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	560-62112	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	200 g
Analysis Date:	07/26/2011 0835	Units:	mg/L	Final Weight/Volume:	200 mL
Prep Date:	07/22/2011 1218				
Leach Date:	N/A				

Analyte	Result	Qual	NONE	NONE
Ca	0.0000			
Mg	0.0000			
Na	0.0000			

### **Method Blank - Batch: 560-62112**

#### **Method: 20B**

#### **Preparation: 20B**

#### **Soluble**

Lab Sample ID:	MB 560-62112/31-A	Analysis Batch:	560-62200	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	560-62112	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	200 g
Analysis Date:	07/26/2011 0835	Units:	NONE	Final Weight/Volume:	200 mL
Prep Date:	07/22/2011 1218				
Leach Date:	N/A				

Analyte	Result	Qual	NONE	NONE
Sodium Adsorption Ratio	0.0000			

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Method Blank - Batch: 560-62099****Method: 6010B  
Preparation: 3050B**

Lab Sample ID:	MB 560-62099/1-A	Analysis Batch:	560-62161	Instrument ID:	MTS6500
Client Matrix:	Solid	Prep Batch:	560-62099	Lab File ID:	110722b.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	07/22/2011 1701	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	07/22/2011 1000				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Arsenic	0.145	U	0.145	2.00
Barium	0.189	U	0.189	1.00
Cadmium	0.0360	U	0.0360	0.500
Chromium	0.134	U	0.134	1.00
Lead	0.152	U	0.152	0.500
Selenium	0.198	U	0.198	1.00
Silver	0.110	U	0.110	0.500

**Lab Control Sample - Batch: 560-62099****Method: 6010B  
Preparation: 3050B**

Lab Sample ID:	LCS 560-62099/2-A	Analysis Batch:	560-62161	Instrument ID:	MTS6500
Client Matrix:	Solid	Prep Batch:	560-62099	Lab File ID:	110722b.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	07/22/2011 1704	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	07/22/2011 1000				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	20.0	18.54	93	80 - 120	
Barium	20.0	18.53	93	80 - 120	
Cadmium	20.0	18.86	94	80 - 120	
Chromium	20.0	18.98	95	80 - 120	
Lead	20.0	19.46	97	80 - 120	
Selenium	20.0	17.65	88	80 - 120	
Silver	20.0	19.83	99	80 - 120	

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 560-62099**

**Method: 6010B  
Preparation: 3050B**

MS Lab Sample ID:	560-27063-1	Analysis Batch:	560-62161	Instrument ID:	MTS6500
Client Matrix:	Solid	Prep Batch:	560-62099	Lab File ID:	110722b.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	+0001.059 g
Analysis Date:	07/22/2011 1708			Final Weight/Volume:	50 mL
Prep Date:	07/22/2011 1000				
Leach Date:	N/A				

MSD Lab Sample ID:	560-27063-A-1-F MSD	Analysis Batch:	560-62161	Instrument ID:	MTS6500
Client Matrix:	Solid	Prep Batch:	560-62099	Lab File ID:	110722b.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	+0001.239 g
Analysis Date:	07/22/2011 1710			Final Weight/Volume:	50 mL
Prep Date:	07/22/2011 1000				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Arsenic	90	98	75 - 125	11	20		
Barium	-46	397	75 - 125	13	20	4	
Cadmium	94	98	75 - 125	11	20		
Chromium	99	114	75 - 125	10	20		
Lead	94	125	75 - 125	6	20		
Selenium	87	90	75 - 125	12	20		
Silver	106	102	75 - 125	19	20		

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 560-62099**

**Method: 6010B  
Preparation: 3050B**

MS Lab Sample ID:	560-27063-1	Units:	mg/Kg	MSD Lab Sample ID:	560-27063-A-1-F MSD
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	07/22/2011 1708			Analysis Date:	07/22/2011 1710
Prep Date:	07/22/2011 1000			Prep Date:	07/22/2011 1000
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
	Result/Qual	Amount				
Arsenic	0.752	J	19.8	16.9	18.62	16.68
Barium	96.9		19.8	16.9	87.81	4 76.90
Cadmium	0.0840	J	19.8	16.9	18.57	16.61
Chromium	1.73		19.8	16.9	21.29	19.24
Lead	4.84		19.8	16.9	23.49	22.04
Selenium	0.174	U	19.8	16.9	17.26	15.25
Silver	0.0968	U	19.8	16.9	20.88	17.20

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

### **Method Blank - Batch: 560-62089**

### **Method: 7471A Preparation: 7471A**

Lab Sample ID:	MB 560-62089/4-A	Analysis Batch:	560-62082	Instrument ID:	Mhg1
Client Matrix:	Solid	Prep Batch:	560-62089	Lab File ID:	110721S.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.6 g
Analysis Date:	07/21/2011 1507	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	07/21/2011 0822				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.0180	U	0.0180	0.200

### **Lab Control Sample - Batch: 560-62089**

### **Method: 7471A Preparation: 7471A**

Lab Sample ID:	LCS 560-62089/5-A	Analysis Batch:	560-62082	Instrument ID:	Mhg1
Client Matrix:	Solid	Prep Batch:	560-62089	Lab File ID:	110721S.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.6 g
Analysis Date:	07/21/2011 1509	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	07/21/2011 0822				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.4550	109	80 - 120	

### **Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 560-62089**

### **Method: 7471A Preparation: 7471A**

MS Lab Sample ID:	560-27063-1	Analysis Batch:	560-62082	Instrument ID:	Mhg1
Client Matrix:	Solid	Prep Batch:	560-62089	Lab File ID:	110721S.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.947 g
Analysis Date:	07/21/2011 1515			Final Weight/Volume:	50 mL
Prep Date:	07/21/2011 0822				
Leach Date:	N/A				

MSD Lab Sample ID:	560-27063-1	Analysis Batch:	560-62082	Instrument ID:	Mhg1
Client Matrix:	Solid	Prep Batch:	560-62089	Lab File ID:	110721S.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.932 g
Analysis Date:	07/21/2011 1518			Final Weight/Volume:	50 mL
Prep Date:	07/21/2011 0822				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Mercury	111	109	75 - 125	0	30		

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 560-62089**

**Method: 7471A  
Preparation: 7471A**

MS Lab Sample ID:	560-27063-1	Units:	mg/Kg	MSD Lab Sample ID:	560-27063-1
Client Matrix:	Solid			Client Matrix:	Solid
Dilution:	1.0			Dilution:	1.0
Analysis Date:	07/21/2011 1515			Analysis Date:	07/21/2011 1518
Prep Date:	07/21/2011 0822			Prep Date:	07/21/2011 0822
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Mercury	0.0101 U	0.276	0.281	0.3071	0.3064

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:**Method Blank - Batch: 600-58719****Method: 351.2**  
**Preparation: N/A**

Lab Sample ID:	MB 600-58719/16	Analysis Batch:	600-58719	Instrument ID:	WC07
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	071811TA.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.5 g
Analysis Date:	07/18/2011 1554	Units:	mg/Kg	Final Weight/Volume:	20 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrogen, Kjeldahl	35.2	U	35.2	40.0

**Lab Control Sample - Batch: 600-58719****Method: 351.2**  
**Preparation: N/A**

Lab Sample ID:	LCS 600-58719/17	Analysis Batch:	600-58719	Instrument ID:	WC07
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	071811TA.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.5 g
Analysis Date:	07/18/2011 1555	Units:	mg/Kg	Final Weight/Volume:	20 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrogen, Kjeldahl	400	387.5	97	90 - 110	

**Matrix Spike - Batch: 600-58719****Method: 351.2**  
**Preparation: N/A**

Lab Sample ID:	560-27063-1	Analysis Batch:	600-58719	Instrument ID:	WC07
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	071811TA.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.5 g
Analysis Date:	07/18/2011 1604	Units:	mg/Kg	Final Weight/Volume:	20 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Nitrogen, Kjeldahl	815	418	795.4	-5	90 - 110	N

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

**Duplicate - Batch: 600-58719**

**Method: 351.2**  
**Preparation: N/A**

Lab Sample ID:	560-27063-1	Analysis Batch:	600-58719	Instrument ID:	WC07
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	071811TA.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.5 g
Analysis Date:	07/18/2011 1603	Units:	mg/Kg	Final Weight/Volume:	20 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Nitrogen, Kjeldahl	815	744.2	9	20	

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

### Lab Control Sample - Batch: 560-61881

**Method: 9045D**

**Preparation: N/A**

Lab Sample ID:	LCS 560-61881/2	Analysis Batch:	560-61881	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	20 mL
Analysis Date:	07/18/2011 0815	Units:	SU	Final Weight/Volume:	20 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
pH	4.99	5.040	101	98 - 102	

### Duplicate - Batch: 560-61881

**Method: 9045D**

**Preparation: N/A**

Lab Sample ID:	560-27063-1	Analysis Batch:	560-61881	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	19.96 mL
Analysis Date:	07/18/2011 1035	Units:	SU	Final Weight/Volume:	20 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH	7.45	7.370	1	20	

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:

### Method Blank - Batch: 560-61854

### Method: 9056

### Preparation: N/A

Lab Sample ID:	MB 560-61782/1-A	Analysis Batch:	560-61854	Instrument ID:	ICMetro
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	071511.csv
Dilution:	1.0	Leach Batch:	560-61782	Initial Weight/Volume:	
Analysis Date:	07/15/2011 1635	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/14/2011 1330				

Analyte	Result	Qual	MDL	RL
Nitrate as N-Soluble	0.556	U	0.556	5.00
Nitrite as N-Soluble	2.00	U	2.00	5.00

### Lab Control Sample - Batch: 560-61854

### Method: 9056

### Preparation: N/A

Lab Sample ID:	LCS 560-61782/2-A	Analysis Batch:	560-61854	Instrument ID:	ICMetro
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	071511.csv
Dilution:	1.0	Leach Batch:	560-61782	Initial Weight/Volume:	
Analysis Date:	07/15/2011 1657	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	07/14/2011 1330				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	50.0	49.39	99	80 - 120	
Nitrite as N-Soluble	50.0	49.91	100	80 - 120	

## Quality Control Results

Client: TRC Environmental Corporation

Job Number: 560-27063-1  
Sdg Number:**Method Blank - Batch: 560-61826****Method: SM 2510B**  
**Preparation: N/A**

Lab Sample ID:	MB 560-61828/7-A	Analysis Batch:	560-61826	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	560-61828	Initial Weight/Volume:	
Analysis Date:	07/15/2011 1245	Units:	umhos/cm	Final Weight/Volume:	30 mL
Prep Date:	N/A				
Leach Date:	07/15/2011 1015				

Analyte	Result	Qual	RL	RL
Specific Conductance-Soluble	1.00	U	1.00	1.00

**Lab Control Sample - Batch: 560-61826****Method: SM 2510B**  
**Preparation: N/A**

Lab Sample ID:	LCS 560-61828/8-A	Analysis Batch:	560-61826	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	560-61828	Initial Weight/Volume:	
Analysis Date:	07/15/2011 1245	Units:	umhos/cm	Final Weight/Volume:	30 mL
Prep Date:	N/A				
Leach Date:	07/15/2011 1015				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Specific Conductance-Soluble	1000	1003	100	90 - 110	

**Duplicate - Batch: 560-61826****Method: SM 2510B**  
**Preparation: N/A**

Lab Sample ID:	560-27063-1	Analysis Batch:	560-61826	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	560-61828	Initial Weight/Volume:	
Analysis Date:	07/15/2011 1245	Units:	umhos/cm	Final Weight/Volume:	30 mL
Prep Date:	N/A				
Leach Date:	07/15/2011 1015				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Specific Conductance-Soluble	2630	2609	0.800		

**Method Detection Limit (MDL) & Detectability Check Standard (DCS) Studies**

2nd Quarter MDL/DCS (Apr - Jun2011), Jobs #560-25414-3 (VGCMs#3) and XXXXX (VGCMs#4)

**GC/MS VOC - D.P. Soil Regular & Extended List**

**Method Matrix: Soil Direct Purge**

**Instrument VGCMs#3 & VGCMs#4**

**Prep Factor =1 or 5g → Final Soil KRM/RT**

Parameter	Lowest PCL ug/Kg Res.- 30acre source	Matrix	MDL in ug/Kg	2011Q2 DCS Spike Conc. Ug/Kg	2011Q2 DCS Measure d Value ug/Kg	Alter. DCS Spike Value Conc. Ug/Kg	Alter.D CS Measur ed Value ug/Kg	Low LVL cal	MDL in TALS ug/Kg	RL ug/Kg
1,1,1,2-Tetrachloroethane 630-20-6	708	Soil DP	<b>0.270</b>	<b>0.50</b>	0.373			5	<b>0.270</b>	5
1,1,1-Trichloroethane 71-55-6 pp	810	Soil DP	<b>0.700</b>	<b>1.00</b>	1.140			5	<b>0.700</b>	5
1,1,2,2-Tetrachloroethane 79-34-5 pp	12	Soil DP	<b>0.380</b>	<b>0.50</b>	0.512			5	<b>0.380</b>	5
1,1,2-Trichloro-1,2,2,-Trifluoroethane (Freon 113) 76-1-	39910000	Soil DP	<b>0.670</b>	<b>1.00</b>	0.694			5	<b>0.670</b>	5
1,1,2-Trichloroethane 79-00-5	10	Soil DP	<b>0.500</b>	<b>1.00</b>	0.969			5	<b>0.500</b>	5
1,1-Dichloroethane 75-34-3 pp	4620	Soil DP	<b>0.590</b>	<b>1.00</b>	0.904			5	<b>0.590</b>	5
1,1-Dichloroethene (Vinylidene chloride) 75-35-4 pp,tclp	25	Soil DP	<b>0.190</b>	<b>0.50</b>	0.568			5	<b>0.190</b>	5
1,1-Dichloropropene 563-58-6	67	Soil DP	<b>0.520</b>	<b>1.00</b>	1.120			5	<b>0.520</b>	5
1,2,3-Trichlorobenzene 87-61-6	13,100	Soil DP	<b>0.440</b>	<b>0.50</b>	0.478			5	<b>0.440</b>	5
1,2,3-Trichloropropane 96-18-4	0.266	Soil DP	<b>0.760</b>	<b>1.00</b>	1.160			5	<b>0.760</b>	5
1,2,4-Trichlorobenzene 120-82-1	2400	Soil DP	<b>0.970</b>	<b>1.00</b>	0.890			5	<b>0.970</b>	5
1,2,4-Trimethylbenzene 95-63-6	24300	Soil DP	<b>0.200</b>	<b>0.50</b>	0.544			5	<b>0.200</b>	5
1,2-Dibromo-3-Chloropropane 96-12-8	0.87	Soil DP	<b>0.330</b>	<b>1.00</b>	0.790			5	<b>0.330</b>	5
1,2-Dibromoethane (EDB) 106-93-4	0.10	Soil DP	<b>0.170</b>	<b>0.50</b>	0.493			5	<b>0.170</b>	5
1,2-Dichlorobenzene 95-50-1 pp	8940	Soil DP	<b>0.250</b>	<b>0.50</b>	0.598			5	<b>0.250</b>	5
1,2-Dichloroethane (EDC) 107-06-2 pp, TCLP	7	Soil DP	<b>0.520</b>	<b>1.00</b>	1.350			5	<b>0.520</b>	5
1,2-Dichloropropane 78-87-5 pp	11	Soil DP	<b>0.150</b>	<b>0.50</b>	0.560			5	<b>0.150</b>	5
1,3,5-Trichlorobenzene 108-70-3	3730	Soil DP	<b>0.310</b>	<b>0.50</b>	0.470			5	<b>0.310</b>	5
1,3,5-Trimethylbenzene 108-67-8	26600	Soil DP	<b>0.210</b>	<b>0.50</b>	0.527			5	<b>0.210</b>	5
1,3-Dichlorobenzene 541-73-1 pp	3370	Soil DP	<b>0.310</b>	<b>0.50</b>	0.548			5	<b>0.310</b>	5
1,3-Dichloropropane 142-28-9	32	Soil DP	<b>0.240</b>	<b>0.50</b>	0.512			5	<b>0.240</b>	5
1,4-Dichlorobenzene 106-46-7 pp,tclp	1050	Soil DP	<b>0.320</b>	<b>0.50</b>	0.542			5	<b>0.320</b>	5
1,4-Dioxane (X20) 123-91-1	80	Soil DP	<b>19.000</b>	<b>20.00</b>	24.600			20	<b>19.0</b>	100
1-Chlorohexane 544-10-5	19700	Soil DP	<b>0.550</b>	<b>1.00</b>	1.070			100	<b>0.550</b>	5
1-Octene ( Not TCEQ FOA)		Soil DP	<b>0.500</b>	<b>0.50</b>	NA			5	<b>0.500</b>	5
2,2-Dichloropropane 594-20-7	60	Soil DP	<b>0.840</b>	<b>1.00</b>	1.560			5	<b>0.840</b>	5
2-Butanone (Methyl Ethyl Ketone) 78-93-3 tclp	14643	Soil DP	<b>1.000</b>	<b>1.00</b>	3.940			5	<b>1.000</b>	5
2-Chloro-1,3-Butadiene (Chloroprene) 126-99-8	15200	Soil DP	<b>0.690</b>	<b>1.00</b>	1.110			5	<b>0.690</b>	5
2-Chloroethylvinyl Ether 110-75-8 pp	1.4	Soil DP	<b>0.500</b>	<b>1.00</b>	0.700			5	<b>0.500</b>	5
2-Chlorotoluene 95-49-8	4530	Soil DP	<b>0.220</b>	<b>0.50</b>	0.629			5	<b>0.220</b>	5
2-Hexanone 591-78-6	1940	Soil DP	<b>1.200</b>	<b>2.00</b>	1.550			5	<b>1.200</b>	5
2-Nitropropane 79-46-9	3.5	Soil DP	<b>0.520</b>	<b>1.00</b>	1.840			5	<b>0.520</b>	5
4-Chlorotoluene	2470	Soil DP	<b>0.690</b>	<b>1.00</b>	1.190			5	<b>0.690</b>	5
4-Isopropyltoluene (Cymene) 99-87-6	115800	Soil DP	<b>0.210</b>	<b>0.50</b>	0.539			5	<b>0.210</b>	5
4-Methyl-2-Pentanone (MIBK)	881	Soil DP	<b>0.930</b>	<b>1.00</b>	1.090			5	<b>0.930</b>	5
Acetone 67-64-1	21400	Soil DP	<b>7.200</b>	<b>20.00</b>	16.200			50	<b>7.200</b>	50
Acetonitrile (X10) 75-05-8	758	Soil DP	<b>37.0</b>	<b>50.00</b>	84.300			50	<b>37.0</b>	50
Acrolein (X10) 107-02-8 pp	12	Soil DP	<b>8.600</b>	<b>10.00</b>	27.200			50	<b>8.600</b>	50
Acrylonitrile (X10) 107-13-1 pp	1.7	Soil DP	<b>3.600</b>	<b>10.00</b>	5.460	<b>20</b>	10.70	50	<b>3.600</b>	50
Allyl Chloride (3-Chloro-1-propene) 107-05-1	506	Soil DP	<b>0.980</b>	<b>1.00</b>	1.130	<b>2.00</b>	1.81	5	<b>0.980</b>	5
Benzene 71-43-2 pp,tclp	13	Soil DP	<b>0.230</b>	<b>0.50</b>	0.795			5	<b>0.230</b>	5

**Method Detection Limit (MDL) & Detectability Check Standard (DCS) Studies**

2nd Quarter MDL/DCS (Apr - Jun2011), Jobs #560-25414-3 (VGCMs#3) and XXXXX (VGCMs#4)

**GC/MS VOC - D.P. Soil Regular & Extended List**

**Method Matrix: Soil Direct Purge**

**Instrument VGCMs#3 & VGCMs#4**

**Prep Factor =1 or 5g → Final Soil KRM/RT**

	Lowest PCL ug/Kg			2011Q2 DCS	2011Q2 DCS	Alter. DCS Spike	Alter.D CS Measur			
Benzyl Chloride 100-44-7	25	Soil DP	0.500	0.50	0.420			5	0.500	5
Bromobenzene 108-86-1	2890	Soil DP	0.740	1.00	1.380			5	0.740	5
Bromodichloromethane 75-27-4 pp	33	Soil DP	0.190	0.50	0.543			5	0.190	5
Bromoform (Tribromomethane) 75-25-2 pp	316	Soil DP	0.510	1.00	2.270			5	0.510	5
Bromomethane (Methylbromide) 74-83-9 pp	65	Soil DP	1.100	1.00	0.680	2.00	2.32	5	1.100	5
butadiene or 1,3-Butadiene 106-99-0	755	Soil DP	0.240	0.50	0.699			5	0.240	5
Carbon Disulfide 75-15-0	6790	Soil DP	1.000	1.00	0.946			5	1.000	5
Carbon Tetrachloride 56-23-5 pp,tclp	31	Soil DP	0.510	1.00	1.170			5	0.510	5
Chlorobenzene 108-90-7 pp,tclp	546	Soil DP	0.230	0.50	0.535			5	0.230	5
Chlorobromomethane 74-97-5	1520	Soil DP	0.900	1.00	0.890			5	0.900	5
Chlorodibromomethane 124-48-1 pp	25	Soil DP	0.640	1.00	0.885			5	0.640	5
Chloroethane (Ethyl Chloride) 75-00-3 pp	15500	Soil DP	0.260	0.50	0.458			5	0.260	5
Chloroform 67-66-3 pp,tclp	510	Soil DP	0.870	1.00	1.060			5	0.870	5
Chloromethane (Methylchloride) 74-87-3 pp	203	Soil DP	1.200	1.00	1.410	2.00	2.19	5	1.200	5
cis-1,2-Dichloroethene 156-59-2 pp	124	Soil DP	0.570	1.00	1.280			5	0.570	5
cis-1,3-Dichloropropene 10061-01-5 pp	20	Soil DP	0.141	0.50	0.440			5	0.141	5
cis-1,4-Dichloro-2-Butene 1476-11-5	164	Soil DP	0.320	1.00	1.140			5	0.320	5
Cyclohexane (X2) 110-82-7	2941000	Soil DP	0.990	1.00	1.990	2.00	2.87	10	0.990	10
Cyclohexanone (X5) 108-94-1	131000	Soil DP	3.000	5.00	4.330			25	3.000	25
Dibromomethane (Methylene bromide) 74-95-3	565	Soil DP	0.710	1.00	1.020			5	0.710	5
Dichlorodifluoromethane 75-71-8 pp	120000	Soil DP	0.730	1.00	1.230			5	0.730	5
Ethyl Acetate 141-78-6	23500	Soil DP	1.200	2.00	1.100			5	1.200	5
Ethyl Ether (Diethyl Ether) 60-29-7	5590	Soil DP	0.170	0.50	0.491			5	0.170	5
Ethyl Methacrylate 97-63-2	3750	Soil DP	0.510	1.00	2.690	2.00	3.21	5	0.510	5
Ethylbenzene 100-41-4 pp	3820	Soil DP	0.220	0.50	0.526			5	0.220	5
Ethylene Oxide	1	Soil DP	16.000	25.00	26.500			100	16.0	40
Hexachlorobutadiene 87-68-3	1645	Soil DP	0.640	1.00	0.810			5	0.640	5
Hexane 110-54-3		Soil DP	1.300	2.00	2.420			5	1.300	5
Iodomethane (Methyl Iodide) 74-88-4	57	Soil DP	0.800	1.00	0.901			5	0.800	5
Isobutyl alcohol (X20) 78-83-1	7850	Soil DP	68.0	100	96.5			100	68.0	100
Isooctane (2,2,4-trimethylpentane) 540-84-1		Soil DP	0.160	0.50	0.520			5	0.160	5
Isopropylbenzene (Cumene) 98-82-8	174000	Soil DP	0.140	0.50	0.474			5	0.140	5
m,p-Xylene (X2) 136777-61-2		Soil DP	0.360	1.00	1.090			10	0.360	10
Methacrylonitrile (Methylacrylonitrile) (X10) 126-9	2.5	Soil DP	2.400	5.00	3.690			50	2.400	50
Methyl Methacrylate 80-62-6	49100	Soil DP	1.100	2.00	3.690			5	1.100	5
Methyl tert butyl Ether (MTBE) 1634-04-4	19	Soil DP	0.610	1.00	0.851			5	0.610	5

**Method Detection Limit (MDL) & Detectability Check Standard (DCS) Studies**

2nd Quarter MDLV/DCS (Apr - Jun2011), Jobs #560-25414-3 (VGCMs#3) and XXXXX (VGCMs#4)

**GC/MS VOC - D.P. Soil Regular & Extended List**

**Method Matrix: Soil Direct Purge**

**Instrument VGCMs#3 & VGCMs#4**

**Prep Factor =1 or 5g → Analyte Soil KRM/RT**

	Lowest PCL ug/Kg			2011Q2 DCS	2011Q2 DCS	Alter. DCS Spike	Alter.D CS Measur			
Methylene Chloride (Dichloromethane) 75-09-2 pp	6.5	Soil DP	<b>5.000</b>	5.0	4.85	<b>10</b>	8.80	5	<b>5.000</b>	25
Naphthalene 91-20-3	15600	Soil DP	<b>1.200</b>	<b>2.00</b>	1.340			5	<b>1.200</b>	5
n-Butylbenzene 104-51-8	60700	Soil DP	<b>0.270</b>	<b>0.50</b>	0.525			5	<b>0.270</b>	5
n-Heptane 142-82-5	358000	Soil DP	<b>0.530</b>	<b>1.00</b>	1.290			5	<b>0.530</b>	5
n-Propylbenzene 103-65-1	22400	Soil DP	<b>0.210</b>	<b>0.50</b>	0.568			5	<b>0.210</b>	5
o-Xylene 95-47-6	35355	Soil DP	<b>0.220</b>	<b>0.50</b>	0.539			5	<b>0.220</b>	5
Pentachloroethane 76-01-7	168	Soil DP	<b>1.400</b>	<b>2.00</b>	1.480			5	<b>1.400</b>	5
Propionitrile (Ethyl cyanide) (X10) 107-12-0	10	Soil DP	<b>4.900</b>	<b>10.00</b>	3.500			50	<b>4.900</b>	50
sec-Butylbenzene 135-98-8	42400	Soil DP	<b>0.200</b>	<b>0.50</b>	0.544			5	<b>0.200</b>	5
Styrene 100-42-5	1630	Soil DP	<b>0.200</b>	<b>0.50</b>	1.990			5	<b>0.200</b>	5
tert-Butylbenzene 98-06-6	50000	Soil DP	<b>0.250</b>	<b>0.50</b>	0.534			5	<b>0.250</b>	5
Tetrachloroethene 127-18-4 pp,tclp	25	Soil DP	<b>0.740</b>	<b>1.00</b>	1.070			5	<b>0.740</b>	5
Toluene 108-88-3 pp	4110	Soil DP	<b>0.560</b>	<b>1.00</b>	1.310			5	<b>0.560</b>	5
trans-1,2-Dichloroethene 156-60-5 pp	245	Soil DP	<b>0.500</b>	<b>0.50</b>	0.527			5	<b>0.500</b>	5
trans-1,3-Dichloropropene 10061-02-6 pp	18	Soil DP	<b>0.520</b>	<b>1.00</b>	1.010			5	<b>0.520</b>	5
trans-1,4-Dichloro-2-Butene 110-57-6	170	Soil DP	<b>0.880</b>	<b>1.00</b>	1.550			5	<b>0.880</b>	5
Trichloroethene 79-01-6 pp,tclp	17	Soil DP	<b>0.280</b>	<b>0.50</b>	0.519			5	<b>0.280</b>	5
Trichlorofluoromethane 75-69-4 pp	64000.0	Soil DP	<b>0.500</b>	<b>1.00</b>	1.300			5	<b>0.500</b>	5
Vinyl Acetate 108-05-4	26700	Soil DP	<b>1.100</b>	<b>2.00</b>	2.800			5	<b>1.100</b>	5
Vinyl Chloride (Chloroethene) 75-01-4 pp,tclp	11	Soil DP	<b>0.600</b>	<b>1.00</b>	0.922			5	<b>0.600</b>	5
Xylenes, Total 1330-20-7 pp,tclp	61300	Soil DP	<b>0.360</b>	<b>1.50</b>	1.630			15	<b>0.360</b>	15

**Method Detection Limit (MDL) & Detectability Check Standard (DCS) Studies**

**Method 8270C GC/MS Semivolatile Organics - Soil Matrix**

2nd Quarter 2011 (Apr - Jun 2011), Job 560-25303-4 and 5

Extraction: 30g to 1ml ; Prep factor = 33.3ug/Kg (0.03Kg to FV = 1ml)

Instrument: SVGCM#2 & #3

Raw data in ug/ml X (1ml/0.03Kg) = DCS measured value in ug/Kg Soil

**Method: 8270C**

**Matrix: Soil**

**Analyst: GEF/BEC**

**SVGCMS#3**

<b>Parameter</b>	TRRP 30acre source Lowest PCL mg/Kg	<b>Matrix</b>	<b>MDL ug/Kg</b>	<b>2011Q2 DCS Run Date</b>	<b>Spike Range ug/Kg</b>		<b>2011Q2 DCS Spike Conc ug/Kg</b>	<b>2011Q2 DCS measured value ug/Kg</b>	<b>Alter. DCS Spike Conc ug/Kg</b>	<b>Alt. DCS measured value ug/Kg</b>
					<b>Min</b>	<b>Max</b>				
1,1-Biphenyl (Diphenyl) (92-52-4)	127	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	34.70		
1,2,4,5-Tetrachlorobenzene (95-95-3)	0.242	Soil	<b>38.4</b>	04/26/11	38.40	115.20	<b>50.0</b>	36.50		
1,2,4-Trichlorobenzene (120-82-1)	2.4	Soil	<b>45.7</b>	04/26/11	45.70	137.10	<b>50.0</b>	35.50		
1,2-Dichlorobenzene (95-50-1)	8.94	Soil	<b>52.1</b>	04/25/11	52.10	156.30	<b>50.0</b>	30.50		
1,2-Diphenylhydrazine ( as azobenzene 103-33-3)	0.016	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	28.90		
1,3-Dichlorobenzene (541-73-1)	3.37	Soil	<b>43.8</b>	04/25/11	43.80	131.40	<b>50.0</b>	30.50		
1,3-Dimethylnaphthalene (575-41-7)	395	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	30.90		
1,4-Dichlorobenzene (106-46-7)	1.05	Soil	<b>45.8</b>	04/25/11	45.80	137.40	<b>50.0</b>	30.00		
1-Methylnaphthalene (90-12-0)	80.1	Soil	<b>31.8</b>	04/25/11	31.80	95.40	<b>50.0</b>	31.50		
2,3,4,6-Tetrachlorophenol (58-90-2)	2.24	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	25.60		
2,4,5-Trichlorophenol (95-95-4)	16.9	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	28.40		
2,4,6-Trichlorophenol (88-06-2)	0.297	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	28.10		
2,4-Dichlorophenol (120-83-2)	0.176	Soil	<b>22.8</b>	04/26/11	22.80	68.40	<b>50.0</b>	32.50		
2,4-Dimethylphenol 576-26-1	1.62	Soil	<b>20.4</b>	04/26/11	20.40	61.20	<b>50.0</b>	39.30		
2,4-Dinitrophenol (51-28-5)	0.047	Soil	<b>100.0</b>	04/26/11	100.00	300.00	<b>100.0</b>	234.00		
2,4-Dinitrotoluene (121-14-2)	0.0027	Soil	<b>21.1</b>	04/25/11	21.11	63.33	<b>50.0</b>	20.00		
2,6-Dichlorophenol (87-65-0)	0.034	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	29.70		
2,6-Dinitrotoluene (606-20-2)	0.0024	Soil	<b>50.0</b>	04/25/11	50.00	150.00	<b>50.0</b>	21.00		
2-Chloronaphthalene (91-58-7)	335	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	31.90		
2-Chlorophenol (95-57-8)	0.816	Soil	<b>27.8</b>	04/26/11	27.80	83.40	<b>50.0</b>	35.80		
2-Methyl-4,6-dinitrophenol (534-52-1)	0.047	Soil	<b>50.0</b>	04/26/11	50.00	150.00	<b>50.0</b>	12.00	<b>100.0</b>	38.96
2-Methylnaphthalene (91-57-6)	8.53	Soil	<b>31.1</b>	04/26/11	31.10	93.30	<b>50.0</b>	33.50		
2-Methylphenol (o-cresol) (95-48-7)	3.56	Soil	<b>32.96</b>	04/26/11	32.96	98.88	<b>50.0</b>	33.70		
2-Nitroaniline (88-74-4)	0.011	Soil	<b>22.2</b>	04/25/11	22.20	66.60	<b>50.0</b>	24.80		
2-Nitrophenol (88-75-5)	0.067	Soil	<b>17.0</b>	04/26/11	17.00	51.00	<b>50.0</b>	26.30		
3,3-Dichlorobenzidine (91-94-1)	0.031	Soil	<b>50.0</b>	04/25/11	50.00	150.00	<b>50.0</b>	5.50	<b>100.0</b>	11.99
3,4 Methylphenol (m&p-cresol) (15831-10-4)	0.316	Soil	<b>50.0</b>	04/26/11	50.00	150.00	<b>100.0</b>	67.10		
3-Nitroaniline (99-09-2)	0.013	Soil	<b>50.0</b>	04/25/11	50.00	150.00	<b>50.0</b>	17.00	<b>100.0</b>	58.94
4-Bromophenyl phenyl ether (101-55-3)	0.177	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	29.10		
4-Chloro-3-methylphenol (59-50-7)	2.26	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	27.30		
4-Chloroaniline (106-47-8)	0.223	Soil	<b>46.6</b>	04/25/11	46.60	139.80	<b>50.0</b>	18.00	<b>100.0</b>	54.95
4-Chlorophenyl phenyl ether (7005-72-3)	0.016	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	42.30		
4-Nitroaniline (100-01-6)	0.028	Soil	<b>28.1</b>	04/25/11	28.09	84.27	<b>50.0</b>	17.00	<b>100.0</b>	53.95
4-Nitrophenol (100-02-7)	0.050	Soil	<b>30.5</b>	04/25/11	30.45	91.35	<b>50.0</b>	18.50	<b>100.0</b>	66.93
6-Methylchrysene (1705-85-7)	56.9	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	28.90		
7,12-Dimethylbenz(a)anthracene (57-97-6)	0.017	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	27.90		
Acenaphthene (83-32-9)	118	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	36.20		
Acenaphthylene (208-96-8)	204	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	32.80		
Acetophenone (98-86-2)	4.12	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	28.40		

**Method Detection Limit (MDL) & Detectability Check Standard (DCS) Studies**

**Method 8270C GC/MS Semivolatile Organics - Soil Matrix**

2nd Quarter 2011 (Apr - Jun 2011), Job 560-25303-4 and 5

Extraction: 30g to 1ml ; Prep factor = 33.3ug/Kg (0.03Kg to FV = 1ml)

Instrument: SVGCM#2 & #3

Raw data in ug/ml X (1ml/0.03Kg) = DCS measured value in ug/Kg Soil

**Method: 8270C**

**Matrix: Soil**

**Analyst: GEF/BEC**

**SVGCMS#3**

<b>Parameter</b>	TRRP 30acre source Lowest PCL mg/Kg	<b>Matrix</b>	<b>MDL ug/Kg</b>	<b>2011Q2 DCS Run Date</b>			<b>2011Q2 DCS Spike Conc ug/Kg</b>	<b>2011Q2 DCS measured value ug/Kg</b>	<b>Alter. DCS Spike Conc ug/Kg</b>	<b>Alt. DCS measured value ug/Kg</b>
					<b>Spike Range ug/Kg</b>	<b>Min</b>	<b>Max</b>			
Aniline (62-53-3)	0.183	Soil	<b>47.00</b>	04/25/11	47.00	141.00	<b>50.0</b>	13.50	<b>100.0</b>	42.96
Anthracene (120-12-7)	3445	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	30.70		
Benzidine (92-87-5)	0.0000055	Soil	<b>333</b>	04/25/11	333.00	999.00	<b>333.0</b>	9.99	<b>667.0</b>	33.30
Benzo(a)anthracene (56-55-3)		Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	40.70		
Benzo(a)pyrene (50-32-8)	0.564	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	37.30		
Benzo(b)fluoranthene (205-99-2)	5.71	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	34.30		
Benzo(ghi)perylene (191-24-2)	1780	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	27.60		
Benzo(k)fluoranthene (207-08-9)	57.2	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	35.00		
Benzoic Acid (65-85-0)	94.6	Soil	<b>50.0</b>	04/25/11	50.00	150.00	<b>50.0</b>	229.00		
Benzyl alcohol (100-51-6)	8.79	Soil	<b>24.5</b>	04/26/11	24.50	73.50	<b>50.0</b>	31.10		
Bis(2-chloroethoxy)methane (111-91-1)	0.0059	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	33.00		
Bis(2-chloroethyl)ether (111-44-4)	0.0011	Soil	<b>37.4</b>	04/26/11	37.40	112.20	<b>50.0</b>	31.00		
Bis(2-chloroisopropyl)ether [2,2'-oxybis(1-chloropropane)]	0.095	Soil	<b>41.0</b>	04/25/11	41.00	123.00	<b>50.0</b>	35.50		
Bis(2-ethylhexyl)phthalate (117-81-7)	43.2	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	35.50		
Butyl benzyl phthalate (85-68-7)	1349	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	25.60		
Carbazole (86-74-8)	2.28	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	37.40		
Chrysene (218-01-9)	560	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	47.40		
Dibenz(a,h)acridine (226-36-8)	3.693	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	26.60		
Dibenz(a,h)anthracene (53-70-3)	0.549	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	26.60		
Dibenzofuran (132-64-9)	16.7	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	32.00		
Diethyl phthalate (84-66-2)	77.9	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	35.10		
Dimethyl phthalate (131-11-3)	31.1	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	32.50		
Di-n-butyl phthalate (84-74-2)	1659	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	27.00		
Di-n-octyl phthalate (117-84-0)	1289	Soil	<b>18.7</b>	04/26/11	18.70	56.10	<b>50.0</b>	18.70		
Fluoranthene (206-44-0)	959	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	30.50		
Fluorene (86-73-7)	149	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	32.60		
Hexachlorobenzene (118-74-1)	0.565	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	32.00		
Hexachlorobutadiene (87-68-3)	0.687	Soil	<b>44.7</b>	04/26/11	44.70	134.10	<b>50.0</b>	39.00		
Hexachlorocyclopentadiene (77-47-4)	7.16	Soil	<b>100.0</b>	04/26/11	100.00	300.00	<b>100.0</b>	151.00	<b>167.0</b>	177.00
Hexachloroethane (67-72-1)	0.918	Soil	<b>50.1</b>	04/26/11	50.10	150.30	<b>50.0</b>	31.00		
Hexachloropropene (1888-71-7)	5.22	Soil	<b>47.3</b>	04/25/11	47.34	142.02	<b>50.0</b>	26.00		
Indene (95-13-6)	3.57	Soil	<b>44.2</b>	04/26/11	44.20	132.60	<b>50.0</b>	34.00		
Indeno(1,2,3-cd)pyrene (193-39-5)	5.72	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	32.20		
Isophorone (78-59-1)	1.5	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	30.80		
Naphthalene (91-20-3)	15.6	Soil	<b>41.7</b>	04/25/11	41.70	125.10	<b>50.0</b>	34.50		
Nitrobenzene (98-95-3)	0.044	Soil	<b>36.4</b>	04/25/11	36.40	109.20	<b>50.0</b>	43.00		
n-Nitrosodimethylamine (55-18-5)	0.0000062	Soil	<b>26.4</b>	04/25/11	26.40	79.20	<b>50.0</b>	28.90		
n-Nitrosodimethylamine (62-75-9)	0.000018	Soil	<b>30.23</b>	04/26/11	30.23	90.69	<b>50.0</b>	36.00	<b>100.0</b>	94.90
n-Nitrosodi-n-butylamine (924-16-3)	0.00094	Soil	<b>19.8</b>	04/25/11	19.80	59.40	<b>50.0</b>	28.60		
n-Nitrosodi-n-propylamine (621-64-7)	0.00018	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	32.10		
n-Nitrosodiphenylamine (86-30-6)	1.412	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	34.40		

**Method Detection Limit (MDL) & Detectability Check Standard (DCS) Studies**

**Method 8270C GC/MS Semivolatile Organics - Soil Matrix**

2nd Quarter 2011 (Apr - Jun 2011), Job 560-25303-4 and 5

Extraction: 30g to 1ml ; Prep factor = 33.3ug/Kg (0.03Kg to FV = 1ml)

Instrument: SVGCM#2 & #3

**Method: 8270C**

**Matrix: Soil**

**Analyst: GEF/BEC**

**SVGCMS#3**

Raw data in ug/ml X (1ml/0.03Kg) = DCS measured value in ug/Kg Soil

<b>Parameter</b>	TRRP 30acre source Lowest PCL mg/Kg	<b>Matrix</b>	<b>MDL ug/Kg</b>	<b>2011Q2 DCS Run Date</b>	<b>Spike Range ug/Kg</b>		<b>2011Q2 DCS Spike Conc ug/Kg</b>	<b>2011Q2 DCS measured value ug/Kg</b>	<b>Alter. DCS Spike Conc ug/Kg</b>	<b>Alt. DCS measured value ug/Kg</b>
					<b>Min</b>	<b>Max</b>				
Pentachlorobenzene (608-93-5)	12.4	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	34.60		
Pentachloroethane (76-01-7)	0.168	Soil	<b>51.0</b>	04/25/11	51.00	153.00	<b>50.0</b>	30.00		
Pentachlorophenol (87-86-5)	0.0092	Soil	<b>100.0</b>	04/26/11	100.00	300.00	<b>100.0</b>	217.00	<b>167.0</b>	263.00
Phenanthrene (85-01-8)	208	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	39.30		
Phenol (108-95-2)	9.57	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	50.90		
Pyrene (129-00-0)	558	Soil	<b>16.7</b>	04/25/11	16.70	50.10	<b>50.0</b>	33.50		
Pyridine (110-86-1)	0.035	Soil	<b>33.40</b>	04/26/11	33.40	100.20	<b>50.0</b>	24.50		
Quinoline (91-22-5)	0.0038	Soil	<b>16.7</b>	04/26/11	16.70	50.10	<b>50.0</b>	35.30		

6010 Soil Method Detection Limit (MDL) & Detectability Check Standard (DCS) Studies

Method 6010

**Soil Digestion: 1g to 50ml**

**Matrix: Soil      2nd quarter 2010 DCS (Apr - Jun 2011), Job 560-25404-1**

Analyte	Analyte	Current MDL	2Q2011 DCS Run Date	Soil Spiked Range mg/Kg		2Q 2011 DCS Spike mg/Kg	2Q 2011 DCS measured value mg/Kg	Soil MDL mg/Kg	RL in soil unit mg/Kg	Analyte
				Min	Max					
Ag	Silver	0.110	04/25/11	0.1100	0.3300	0.250	0.266	0.110	0.50	Ag
Al	Aluminum	3.070	04/25/11	3.0700	9.2100	5.000	4.560	3.070	5.00	Al
As	Arsenic	0.145	04/25/11	0.1450	0.4350	0.250	0.293	0.145	2.00	As
B	Boron	0.414	04/25/11	0.4140	1.2420	0.500	0.450	0.414	10.00	B
Ba	Barium	0.189	04/25/11	0.1890	0.5670	0.250	0.216	0.189	1.00	Ba
Be	Berryllium	0.027	04/25/11	0.0270	0.0810	0.050	0.040	0.027	0.50	Be
Bi	Bismuth	0.267	04/25/11	0.2670	0.8010	0.500	NA	0.267	1.00	Bi
Ca	Calcium	14.500	04/25/11	14.5000	43.5000	20.000	21.600	14.500	50.0	Ca
Cd	Cadmium	0.036	04/25/11	0.0360	0.1080	0.050	0.042	0.036	0.50	Cd
Co	Cobalt	0.028	04/25/11	0.0280	0.0840	0.050	0.061	0.028	1.00	Co
Cr	Chromium	0.134	04/25/11	0.1340	0.4020	0.250	0.273	0.134	1.00	Cr
Cu	Copper	0.201	04/25/11	0.2010	0.6030	0.250	0.360	0.201	2.00	Cu
Fe	Iron	11.800	04/25/11	11.8000	35.4000	2.500	2.240	11.800	20.0	Fe
K	Potassium	15.200	04/25/11	15.2000	45.6000	25.000	27.800	15.200	100.00	K
Li	Lithium	0.280	04/25/11	0.2800	0.8400	0.500	0.490	0.280	0.50	Li
Mg	Magnesium	1.580	04/25/11	1.5800	4.7400	2.000	1.500	1.580	20.0	Mg
Mn	Manganese	0.465	04/25/11	0.4650	1.3950	0.500	0.528	0.465	2.50	Mn
Mo	Molybdenum	0.125	04/25/11	0.1250	0.3750	0.250	0.268	0.125	2.00	Mo
Na	Sodium	15.100	05/09/11	15.1000	45.3000	20.000	38.900	15.100	100.00	Na
Ni	Nickel	0.124	04/25/11	0.1240	0.3720	0.250	0.322	0.124	2.00	Ni
P	Phosphorus	1.660	05/09/11	1.6600	4.9800	2.000	2.390	1.660	50.00	P
Pb	Lead	0.152	04/25/11	0.1520	0.4560	0.250	0.230	0.152	0.50	Pb
Sb	Antimony	0.267	04/25/11	0.2670	0.8010	0.500	0.441	0.267	2.00	Sb
Se	Selenium	0.198	04/25/11	0.1980	0.5940	0.500	0.440	0.198	1.00	Se
Si	Silicon	6.32	05/09/11	6.3200	18.9600	10.000	6.400	6.320	20.00	Si
SiO2	Silica, SiO2	13.5	04/25/11	13.5000	40.5000			13.500	42.86	SiO2
Sn	Tin	1.840	05/09/11	1.8400	5.5200	2.000	7.150	1.840	10.00	Sn
Sr	Strontium	0.078	04/25/11	0.0780	0.2340	0.100	0.108	0.078	1.00	Sr
Ti	Titanium	0.125	04/25/11	0.1250	0.3750	0.250	0.270	0.125	1.00	Ti
Tl	Thallium	0.119	04/25/11	0.1190	0.3570	0.250	0.236	0.119	1.00	Tl
U	Uranium		04/25/11	0.0000	0.0000					U
V	Vanadium	0.050	04/25/11	0.0500	0.1500	0.100	0.127	0.050	1.00	V
Zn	Zinc	0.570	05/09/11	0.5700	1.7100	1.000	2.780	0.570	2.50	Zn

**MDL-DCS Studies**  
2nd quarter 2011 DCS (April June 2011), Job 560-25406-1

**CVAA Metals**

**Method: 7471 Mercury - Soil**

Mercury soil prep factor = 83.3 (0.6g soil to 50 ml FV)

Matrix: Water

Analyst: JM

Parameter	Matrix	Method	Inst. ID	Calc MDL w/PrepFactor mg/Kg	DCS Run Date	2QDCS2011 Spike Conc mg/Kg Soil	2Q2011 DCS Measured mg/Kg	%REC	Alter. DCS Conc mg/L Water or mg/Kg Soil	Actual Alter. DCS Results	MDL Used mg/Kg Soil	Low Cal std ug/L	MDL Used in LIMS mg/Kg Soil	RL mg/Kg Soil
Mercury (CVAA)	Soil	7471A	CVAA	0.018	04/25/11	0.042	0.04180	100.2%				0.5 ppb	0.018	0.2

**Method Detection Limit (MDL) & Detectability Check Standard (DCS) Studies**

DCS 2Q2011 (Apr - Jun 2011); Job#25413-1 (Soil)

**Wet Chemistry Tests; Matrix: Soil**

<b>Parameter</b>	<b>Matrix</b>	<b>Method</b>	<b>MDL mg/Kg</b>	<b>2011Q2 DCS Date Analyzed</b>	<b>DCS Spiked Range ug/kg</b>		<b>2011Q2 DCS Spike Conc. Ug/Kg</b>	<b>2Q2011 DCS Measured Value mg/Kg</b>	<b>Alt. DCS Spike Conc (mg/L)</b>	<b>Alt.DCS Measured Value mg/L</b>	<b>MDL Used in TALS mg/Kg</b>	<b>RL Used in TALS mg/Kg</b>
					<b>Min</b>	<b>Max</b>						
Bromide by IC	Soil	9056	0.616	05/02/11	0.616	1.848	2.000	8.01			0.616	10.00
Chloride by IC	Soil	9056	1.050	05/02/11	1.050	3.150	2.00	8.04			1.05	10.00
Fluoride by IC	Soil	9056	0.374	05/02/11	0.374	1.122	1.000	2.60			0.374	5.00
Nitrate by IC	Soil	9056	0.556	05/02/11	0.556	1.668	1.00	4.79			0.556	5.00
Nitrate-Nitrite as N by IC	Soil	9056	2.000	05/02/11	2.000	6.000	3.00	7.450			2.000	5.00
Nitrite by IC	Soil	9056	2.000	05/02/11	2.000	6.000	2.00	2.66			2.000	5.00
o-Phosphate as P by IC	Soil	9056	0.773	05/02/11	0.773	2.319	2.00	3.09			0.773	5.00
Sulfate by IC	Soil	9056	8.650	05/02/11	8.650	25.950	10.00	19.40			8.65	10.00

**Note: DCS Spike Concentration must be within 2-3 times the MDL value.**

**Detection Check Standard**

Matrix: Soil

Method: 351.2

Preparation: N/A

Date Analyzed: 06/21/2011

Date Prepared: 06/21/2011

TALs Batches: 57151

Units: mg/Kg

Analyte	MDL	DCS Spike	Measured Result	MQL
Total Kjeldahl Nitrogen (soil)	35.16329	100	75.34176	40

## TestAmerica Corpus Christi

1733 N. Padre Island Drive

Corpus Christi, TX 78408

Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b>		Sampler: <i>C. MANSURI</i>	Lab PM: Padilla, Erica	Carrier Tracking No(s): N/A - Hand Deliver	COC No: 560-4035-439.1				
Client Contact: Mr. Chris Mansuri (Invoice to Central Billing)		Phone: (512) 923-9590	E-Mail: erica.padilla@testamericainc.com		Page: Page 1 of 1 Loc: 560 <b>Job #:</b> 27063				
Company: TRC Environmental Corporation		<b>Analysis Requested</b>							
Address: 505 East Huntland Dr Suite 250		Due Date Requested: Routine							
City: Austin		TAT Requested (days): 10-Business day							
State, Zip: TX, 78752									
Phone: 512-923-9590(Tel)		PO #: <i>34989</i>							
Email: cmansuri@trcsolutions.com, shalasz@trcsolutions.com		WO #:							
Project Name: Falcon Refinery, Ingleside		Project #: 56003247							
Site: Falcon Refinery Irrigation Field.		SSOW#: N/A							
Page 83 84 85	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=biomass, A=air)	Total Filtered Sample Yes or No	Total FAS/MSD Yes or No	Total Number of Containers	Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify)  Other:
						20B_SAR, 2510B, 6010B, 7471A, 8270C, 9045D, 9056	8250B - TOC		
<b>Special Instructions/Note:</b> <i>"20B_SAR" includes Na,Ca,Mg, #/ppm</i> <i>K,P,Ca,Mg,S, Na can be obtained from a Mehlich III soil extract.</i> <i>Nutrient parameters analyzed on a Plant-available basis.</i> <i>All soil results (mg/kg) in dry weight basis.</i>									
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify) <b>TRRP-13 Reporting with Checklist</b>					Special Instructions/QC Requirements:				
Empty Kit Relinquished by: <i>CHRIS MANSURI (TRC)</i>		Date: <i>7/14/2011</i>		Time: <i>3:10 PM</i>		Method of Shipment:			
Relinquished by:		Date/Time: <i>7/14/2011, 3:10 PM</i>		Company: <i>TRC</i>		Received by: <i>[Signature]</i>		Date/Time: <i>7/14/11 1510</i>	Company: <i>TAC</i>
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	Company:
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	Company:
Custody Seals Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Custody Seal No: <i>10523003810</i>		Cooler Temperature(s): <i>4°C</i>		Other Remarks: <i>10523003810</i>		<i>10523003810</i>	

## Login Sample Receipt Checklist

Client: TRC Environmental Corporation

Job Number: 560-27063-1

SDG Number:

**Login Number: 27063**

**List Source: TestAmerica Corpus Christi**

**List Number: 1**

**Creator: McDermott, Vivian**

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: TRC Environmental Corporation

Job Number: 560-27063-1

SDG Number:

**Login Number: 27063**

**List Source: TestAmerica Houston**

**List Number: 1**

**List Creation: 07/16/11 09:31 AM**

**Creator: Roberts, Kenneth**

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

## ANALYTICAL REPORT

Job Number: 560-27063-2

SDG Number:

Job Description: Falcon Refinery, Ingleside

For:

TRC Environmental Corporation  
505 East Huntland Dr  
Suite 250  
Austin, TX 78752

Attention: Mr. Chris Mansuri



Approved for release.  
Erica Padilla  
Project Manager I  
8/2/2011 11:48 AM

Erica Padilla  
Project Manager I  
[erica.padilla@testamericainc.com](mailto:erica.padilla@testamericainc.com)  
08/02/2011

cc: Mr. Stephen Halasz

The test results entered in this report meet all NELAC requirements for accredited parameters. Any exceptions to NELAC requirements are noted in the report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. TestAmerica Corpus Christi Certifications and Approvals: NELAC TX T104704210-TX, NELAC KS E-10362, Oklahoma 9968, USDA Soil Permit P330.

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi 1733 N. Padre Island Drive, Corpus Christi, TX 78408

Tel (361) 289-2673 Fax (361) 289-2471 [www.testamericainc.com](http://www.testamericainc.com)



**Job Narrative  
560-27063-2**

**Comments**

This report contains Mehlich 3 Extractable Nutrient analysis only. All other parameters requested on the client Chain-of-Custody (COC) were previously reported in a separate report and are not missing. Please be aware that Mehlich 3 Extractable nutrients are not applicable to TRRP-13 Reporting. Therefore, a TRRP-13 checklist has not been included.

No additional comments.

**Receipt**

No analytical or quality issues were noted.

**Subcontract Work**

Method Mehlich 3 Plant Nutrients Analysis: This method was subcontracted to Energy Laboratories, Inc. Any subcontract lab certifications are different from those listed for TestAmerica in this final report.

Original

Subcontract Laboratory

Report

## ANALYTICAL SUMMARY REPORT

August 01, 2011

Test America  
1733 N Padre Island Dr  
Corpus Christi, TX 78408-2329

Workorder No.: T11070067

Project Name: 560-27063

Energy Laboratories Inc. College Station TX received the following 3 samples for Test America on 7/19/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
T11070067-001	560-27063-1	07/14/11 10:00	07/19/11	Soil	Metals, Mehlich 3 Extraction Mehlich 3 Soil Extraction Phosphorus, Mehlich 3 Soil Preparation to 10 mesh Soil Sterilization - USDA Required
T11070067-002	560-27063-2	07/14/11 10:30	07/19/11	Soil	Same As Above
T11070067-003	560-27063-3	07/14/11 11:00	07/19/11	Soil	Same As Above

This report was prepared by Energy Laboratories, Inc., 415 Graham Rd., College Station, TX 77845-9660.

As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By:

Laboratory Operations Supervisor

Digitally signed by  
Julie Rhubottom  
Date: 2011.08.01 16:11:54 -05:00

## LABORATORY ANALYTICAL REPORT

Prepared by College Station, TX Branch

**Client:** Test America  
**Project:** 560-27063  
**Lab ID:** T11070067-001  
**Client Sample ID** 560-27063-1

**Report Date:** 08/01/11  
**Collection Date:** 07/14/11 10:00  
**DateReceived:** 07/19/11  
**Matrix:** Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>MEHLICH3 EXTRACTABLE</b>							
Calcium	15800	mg/kg	D	20	SW6010B	07/22/11 13:26 / blc	
Magnesium	491	mg/kg		5	SW6010B	07/28/11 13:12 / sas	
Phosphorus, Mehlich 3	5	mg/kg		1	SSSA-PT3	07/21/11 11:31 / rcg	
Potassium	155	mg/kg		5	SW6010B	07/28/11 13:12 / sas	
Sodium	1180	mg/kg		5	SW6010B	07/28/11 13:12 / sas	
Sulfur	88	mg/kg		5	SW6010B	07/28/11 14:54 / blc	

**Report Definitions:** RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

## LABORATORY ANALYTICAL REPORT

Prepared by College Station, TX Branch

**Client:** Test America  
**Project:** 560-27063  
**Lab ID:** T11070067-002  
**Client Sample ID** 560-27063-2

**Report Date:** 08/01/11  
**Collection Date:** 07/14/11 10:30  
**DateReceived:** 07/19/11  
**Matrix:** Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>MEHLICH3 EXTRACTABLE</b>							
Calcium	3130	mg/kg	D	20	SW6010B	07/22/11 13:29 / blc	
Magnesium	310	mg/kg		5	SW6010B	07/28/11 13:15 / sas	
Phosphorus, Mehlich 3	7	mg/kg		1	SSSA-PT3	07/21/11 11:33 / rcg	
Potassium	74	mg/kg		5	SW6010B	07/28/11 13:15 / sas	
Sodium	557	mg/kg		5	SW6010B	07/28/11 13:15 / sas	
Sulfur	43	mg/kg		5	SW6010B	07/28/11 15:00 / blc	

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

## LABORATORY ANALYTICAL REPORT

Prepared by College Station, TX Branch

**Client:** Test America  
**Project:** 560-27063  
**Lab ID:** T11070067-003  
**Client Sample ID** 560-27063-3

**Report Date:** 08/01/11  
**Collection Date:** 07/14/11 11:00  
**DateReceived:** 07/19/11  
**Matrix:** Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>MEHLICH3 EXTRACTABLE</b>							
Calcium	17900	mg/kg	D	20	SW6010B	07/22/11 13:39 / blc	
Magnesium	834	mg/kg		5	SW6010B	07/28/11 13:17 / sas	
Phosphorus, Mehlich 3	7	mg/kg		1	SSSA-PT3	07/21/11 11:34 / rcg	
Potassium	90	mg/kg		5	SW6010B	07/28/11 13:17 / sas	
Sodium	730	mg/kg		5	SW6010B	07/28/11 13:17 / sas	
Sulfur	66	mg/kg		5	SW6010B	07/28/11 15:02 / blc	

**Report Definitions:** RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by College Station, TX Branch

**Client:** Test America

**Report Date:** 08/01/11

**Project:** 560-27063

**Work Order:** T11070067

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.7										Analytical Run: ICP102-CS_110722A
<b>Sample ID:</b> Initial Calib Verif										07/22/11 13:11
Calcium		49.7	mg/L	1.0	99	95	105			
<b>Sample ID:</b> Cont Calib Blank										07/22/11 13:13
Calcium		0.0105	mg/L	1.0						
<b>Method:</b> E200.7										Analytical Run: ICP102-CS_110728A
<b>Sample ID:</b> Initial Calib Verif	3									07/28/11 13:00
Magnesium		49.8	mg/L	1.0	100	95	105			
Potassium		50.8	mg/L	1.0	102	95	105			
Sodium		50.4	mg/L	1.0	101	95	105			
<b>Sample ID:</b> Cont Calib Blank	3									07/28/11 13:01
Magnesium		0.0211	mg/L	1.0						
Potassium		0.0170	mg/L	1.0						
Sodium		0.144	mg/L	1.0						
<b>Method:</b> E200.7										Analytical Run: ICP102-CS_110728B
<b>Sample ID:</b> Initial Calib Verif										07/28/11 14:41
Sulfur		48.9	mg/L	1.0	98	95	105			
<b>Sample ID:</b> Initial Calib Blank										07/28/11 14:43
Sulfur		0.0216	mg/L	1.0		0	0			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by College Station, TX Branch

**Client:** Test America

**Report Date:** 08/01/11

**Project:** 560-27063

**Work Order:** T11070067

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> SSSA-PT3										Analytical Run: FIA1_110721A
<b>Sample ID:</b> ICV-110721A										07/21/11 11:24
Phosphorus, Mehlich 3		1.36	mg/kg	1.0	91	90	110			
<b>Sample ID:</b> ICB-110721A										07/21/11 11:25
Phosphorus, Mehlich 3		0.0270	mg/kg	1.0		0	0			
<b>Method:</b> SSSA-PT3										Batch: 14449
<b>Sample ID:</b> LCS-14449										07/21/11 11:28
Phosphorus, Mehlich 3		8.94	mg/kg	1.0	95	80	120			
<b>Sample ID:</b> MB-14449										07/21/11 11:29
Phosphorus, Mehlich 3		0.3	mg/kg	0.05						
<b>Sample ID:</b> T11070067-001ADUP										07/21/11 11:32
Phosphorus, Mehlich 3		4.97	mg/kg	1.0				0.6	20	
<b>Sample ID:</b> T11070067-002AMS										07/21/11 11:34
Phosphorus, Mehlich 3		16.8	mg/kg	1.0	102	80	120			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by College Station, TX Branch

**Client:** Test America

**Report Date:** 08/01/11

**Project:** 560-27063

**Work Order:** T11070067

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> SW6010B										Batch: 14449
<b>Sample ID:</b> LCS-14449		Laboratory Control Sample				Run: ICP102-CS_110722A				07/22/11 13:23
Calcium		2500	mg/kg	5.0	96	80	120			
<b>Sample ID:</b> MB-14449		Method Blank				Run: ICP102-CS_110722A				07/22/11 13:24
Calcium		3	mg/kg		0.02					
<b>Sample ID:</b> T11070067-001ADUP		Sample Duplicate				Run: ICP102-CS_110722A				07/22/11 13:27
Calcium		15600	mg/kg	20				1.4		20
<b>Sample ID:</b> T11070067-002AMS		Sample Matrix Spike				Run: ICP102-CS_110722A				07/22/11 13:38
Calcium		13000	mg/kg	20	99	70	130			
<b>Method:</b> SW6010B										Batch: 14449
<b>Sample ID:</b> LCS-14449	3	Laboratory Control Sample				Run: ICP102-CS_110728A				07/28/11 13:09
Magnesium		291	mg/kg	5.0	114	80	120			
Potassium		195	mg/kg	5.0	106	80	120			
Sodium		246	mg/kg	5.0	125	80	120			S
<b>Sample ID:</b> MB-14449	3	Method Blank				Run: ICP102-CS_110728A				07/28/11 13:10
Magnesium		0.4	mg/kg		0.007					
Potassium		ND	mg/kg		0.002					
Sodium		20	mg/kg		0.1					
<b>Sample ID:</b> T11070067-001ADUP	3	Sample Duplicate				Run: ICP102-CS_110728A				07/28/11 13:13
Magnesium		518	mg/kg	5.0				5.4		20
Potassium		161	mg/kg	5.0				4.2		20
Sodium		1240	mg/kg	5.0				4.8		20
<b>Sample ID:</b> T11070067-003AMS	3	Sample Matrix Spike				Run: ICP102-CS_110728A				07/28/11 13:21
Magnesium		2860	mg/kg	5.0	101	70	130			
Potassium		2400	mg/kg	5.0	115	70	130			
Sodium		2880	mg/kg	5.0	108	70	130			
<b>Method:</b> SW6010B										Batch: 14449
<b>Sample ID:</b> MB-14449		Method Blank				Run: ICP102-CS_110728B				07/28/11 14:52
Sulfur		0.8	mg/kg	0.04						
<b>Sample ID:</b> T11070067-001AMS		Sample Matrix Spike				Run: ICP102-CS_110728B				07/28/11 14:56
Sulfur		1010	mg/kg	5.0	92	70	130			
<b>Sample ID:</b> T11070067-001ADUP		Sample Duplicate				Run: ICP102-CS_110728B				07/28/11 14:58
Sulfur		94.3	mg/kg	5.0				6.7		20

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# Workorder Receipt Checklist



Test America

T11070067

Login completed by: Melissa D. Crooks

Date Received: 7/19/2011

Reviewed by: BL2000\treed

Received by: mdc

Reviewed Date: 7/20/2011

Carrier FedEx NDA  
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	2.0°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

---

**Contact and Corrective Action Comments:**

Soil Samples. Receipt temperature checked with IR1; read temp = 2.4 C, corrected temp = 2.0 C. Sample ID's on containers do not match COC (Sample label example = 560-27063-D-1, COC example =560-27063-1). Logged sample ID's per COC. MDC 110719 1551

## Chain-of-Custody Record

1733 North Padre Island Drive  
 Corpus Christi, TX 78408  
 (361) 289-2673 FAX (361) 289-2471

Customer Information			Project Information			Analyses / Method Requested														
P.O.			Project Name	560-27063		A. K, P, Na, Mg, S, Ca (Mehlich III extraction)														
W.O.			Lab Number			B.														
Company	Test America, Inc		Bill To	Same		C.														
Send Report To:	Erica Padilla		Invoice Attn			D.														
Address:	1733 N P I D		Address:																	
City/State/Zip	Corpus Christi, TX 78408		City/State/Zip																	
Phone	361-289-2673		Phone																	
Fax	361-289-2471		Fax																	
Sx No.	Sample Description	Sample Date	Sample Time	Sample Matrix	Container Type	Preservative	No. of Bottles	A	B	C	D	E	F	G	H	I	J	K	L	Comments
1	560-27063-1	7/14/2011	10:00	Soil	2ozwm	N/A	1	X												T110700V7-001
2	560-27063-2	7/14/2011	10:30	Soil	2ozwm	N/A	1	X												-002
3	560-27063-3	7/14/2011	11:00	Soil	2ozwm	N/A	1	X												-003
4																				
5																				
6																				
7																				
8																				
9																				
10																				
Sampler Name:			Shipment Method:			Airbill No.:			Required Turnaround: Standard											
Relinquished by: <i>Blue J. Magee</i> Company Name: <i>TACI</i>			Date 07/18/11 Time 1430		Relinquished by: Company Name: <i>Melissa Brooks</i>			Date		Relinquished by: Company Name: <i>Energy Laboratories</i>			Date							
Received by: <i>Melissa Brooks</i> Company Name: <i>Energy Laboratories</i>			Date 7/19/11 Time 1321		Received by: Company Name:			Date		Received by: Company Name:			Date							

Fedex NDA, Custody Seal on cooler

**End of**  
**Subcontract Laboratory**  
**Report(s)**

## TestAmerica Corpus Christi

1733 N. Padre Island Drive

Corpus Christi, TX 78408

Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b>		Sampler: <i>C. MANSURI</i>	Lab PM: Padilla, Erica	Carrier Tracking No(s): N/A - Hand Deliver	COC No: 560-4035-439.1					
Client Contact: Mr. Chris Mansuri (Invoice to Central Billing)		Phone: (512) 923-9590	E-Mail: erica.padilla@testamericainc.com		Page: Page 1 of 1 Loc: 560 <b>Job #:</b> 27063					
Company: TRC Environmental Corporation		<b>Analysis Requested</b>								
Address: 505 East Huntland Dr Suite 250		Due Date Requested: Routine								
City: Austin		TAT Requested (days): 10-Business day								
State, Zip: TX, 78752										
Phone: 512-923-9590(Tel)		PO #: <i>34989</i>								
Email: cmansuri@trcsolutions.com, shalasz@trcsolutions.com		WO #:								
Project Name: Falcon Refinery, Ingleside		Project #: 56003247								
Site: Falcon Refinery Irrigation Field.		SSOW#: N/A								
Page 14 of 15	Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=biomass, A=air)	Preservation Code	Total Number of Conditions	Special Instructions/Note:	
	COMP - A - C - 6		<i>7/14/2011</i>	1000	C	S	X X X X		"20B_SAR" includes	
	COMP - B - 6 - 16			1030	C	S	X X X X		Na,Ca,Mg, <del>etc</del>	
	COMP - C - 18 - 30			1100	C	S	X X X X		K,P,Ca,Mg,S, Na can	
	TB		<i>7/13/2011</i>	1105	G	W	X		be obtained from a	
									Mehlich III soil extract,	
									Nutrient parameters	
									analyzed on a Plant-available basis.	
									All soil results (mg/kg) in dry weight basis.	
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client	<input checked="" type="checkbox"/> Disposal By Lab	<input type="checkbox"/> Archive For	Months	
Deliverable Requested: I, II, III, IV, Other (specify) <b>TRRP-13 Reporting with Checklist</b>						Special Instructions/QC Requirements:				
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:				
Relinquished by: <i>CHRIS MANSURI (TRC)</i>		Date/Time: <i>7/14/2011, 3:10 PM</i>		Company: TRC		Received by: <i>V. Padilla</i>		Date/Time: <i>7/14/11 1510</i>	Company: <i>TRC</i>	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	Company:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	Company:	
Custody Seals Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Custody Seal No.: <i>10523000310</i>		Cooler Temperature(s): <i>3°C</i> and Other Remarks: <i>RT</i>						

## Login Sample Receipt Checklist

Client: TRC Environmental Corporation

Job Number: 560-27063-2

SDG Number:

**Login Number: 27063**

**List Source: TestAmerica Corpus Christi**

**List Number: 1**

**Creator: McDermott, Vivian**

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

---

## **Attachment 3-F**

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### **Laboratory Analytical Data – Effluent Samples**

1  
2  
3  
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11

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-27236-1

Client Project/Site: Falcon Tank 26

For:

TRC Environmental Corporation  
4220 Herschel Ave  
Unit 805  
Dallas, Texas 75219

Attn: Mr. Chris Mansuri

*Erica Padilla*

Authorized for release by:  
08/02/2011 05:01:18 PM

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# Definitions/Glossary

Client: TRC Environmental Corporation

TestAmerica Job ID: 560-27236-1

Project/Site: Falcon Tank 26

## Qualifiers

### General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
HF	Field parameter with a holding time of 15 minutes
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
干	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

# Case Narrative

Client: TRC Environmental Corporation  
Project/Site: Falcon Tank 26

TestAmerica Job ID: 560-27236-1

## Job ID: 560-27236-1

Laboratory: TestAmerica Corpus Christi

### Narrative

#### Job Narrative 560-27236-1

### Comments

No additional comments.

### Receipt

All samples were received in good condition within temperature requirements.

### Metals

No analytical or quality issues were noted.

### General Chemistry

Method SM 4500 CI F: Residual chlorine analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: 560-27236-1. Data generated after holding time expires should be considered estimated and used at the client's discretion.

Method 9040C: Sample pH analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: 560-27236-1. Data generated after holding time expires should be considered estimated and used at the client's discretion. Additionally, the sample pH was outside the upper calibration standard (pH 12). Therefore, the sample pH has been reported as >12.0.

Method SM 9222D: The following sample and duplicate were diluted due to the odor and oily nature of the sample: 560-27236-1, -1DU. Three dilutions were performed on the sample and duplicate with no colony growth on any of the plates. Therefore, the reporting limit (RL) was calculated using the lowest sample dilution performed for each and data are reported as 'less than' (<).

Method SM 5310B: The method blank and CCB contained TOC above the method detection limit (MDL). However, the concentrations detected were both less than the reporting limit (RL) and the concentration of TOC in sample 560-27236-1 was greater than 10 times the concentration of TOC detected in the MB and CCB. Therefore, re-extraction and/or re-analysis of samples was not performed and data are reported.

No other analytical or quality issues were noted.

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# Detection Summary

Client: TRC Environmental Corporation

Project/Site: Falcon Tank 26

TestAmerica Job ID: 560-27236-1

**Client Sample ID: Tank 26**

**Lab Sample ID: 560-27236-1**

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Ca	7.8				mg/L	1	20B		Soluble
Mg	1.0				mg/L	1	20B		Soluble
Na	4200				mg/L	1	20B		Soluble
Sodium Adsorption Ratio	370				NONE	1	20B		Soluble
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
HEM (Oil & Grease)	50		20	3.1	mg/L	4	1664A		Total/NA
Ammonia as N	7.8		0.20	0.045	mg/L	1	350.1		Total/NA
Nitrogen, Kjeldahl	16		1.0	0.38	mg/L	1	351.2		Total/NA
Chemical Oxygen Demand	1300		400	31	mg/L	10	8000		Total/NA
Chloride	3300		250	48	mg/L	250	9056		Total/NA
Sulfate	49		25	9.4	mg/L	25	9056		Total/NA
Fluoride	1.0		0.20	0.040	mg/L	2	SM 4500 F C		Total/NA
Phosphorus as P	2.3		0.25	0.065	mg/Kg	5	SM 4500 P E		Total/NA
Total Organic Carbon	500	B	50	14	mg/L	50	SM 5310B		Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Nitrogen	8.2		1.0	1.0	mg/L	1	351.2		Total/NA
pH	>12.0	HF	0.10	0.10	SU	1	9040C		Total/NA
Specific Conductance	19000		1.0	1.0	umhos/cm	1	SM 2510B		Total/NA
Total Dissolved Solids	11000		10	10	mg/L	1	SM 2540C		Total/NA
Total Suspended Solids	69		3.0	3.0	mg/L	1	SM 2540D		Total/NA
Carbonaceous Biochemical Oxygen Demand	250		20	20	mg/L	10	SM 5210B		Total/NA
Biochemical Oxygen Demand	250		20	20	mg/L	10	SM 5210B		Total/NA

# Client Sample Results

Client: TRC Environmental Corporation  
Project/Site: Falcon Tank 26

TestAmerica Job ID: 560-27236-1

## Client Sample ID: Tank 26

Lab Sample ID: 560-27236-1

Matrix: Water

Date Collected: 07/26/11 11:45  
Date Received: 07/26/11 13:56

### Method: 20B - Sodium Adsorption Ratio - Soluble

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Ca	7.8				mg/L		07/28/11 08:00	08/02/11 14:43	1
Mg	1.0				mg/L		07/28/11 08:00	08/02/11 14:43	1
Na	4200				mg/L		07/28/11 08:00	08/02/11 14:43	1
Sodium Adsorption Ratio	370				NONE		07/28/11 08:00	08/02/11 14:43	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	50		20	3.1	mg/L			08/02/11 09:00	4
Ammonia as N	7.8		0.20	0.045	mg/L		08/01/11 10:00	08/01/11 12:26	1
Nitrogen, Kjeldahl	16		1.0	0.38	mg/L			07/28/11 17:07	1
Chemical Oxygen Demand	1300		400	31	mg/L		07/28/11 09:15	07/28/11 09:15	10
Chloride	3300		250	48	mg/L			07/27/11 02:42	250
Nitrate as N	<2.6		13	2.6	mg/L			07/27/11 02:20	25
Sulfate	49		25	9.4	mg/L			07/27/11 02:20	25
Chlorine, Total Residual	<0.077 HF		0.20	0.077	mg/L			07/26/11 14:50	1
Fluoride	1.0		0.20	0.040	mg/L			07/29/11 08:45	2
Phosphorus as P	2.3		0.25	0.065	mg/Kg		08/01/11 06:08	08/01/11 06:23	5
Total Organic Carbon	500 B		50	14	mg/L			07/27/11 14:50	50
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Nitrogen	8.2		1.0	1.0	mg/L			08/02/11 15:09	1
pH	>12.0 HF		0.10	0.10	SU			07/26/11 14:55	1
Specific Conductance	19000		1.0	1.0	umhos/cm			07/29/11 10:00	1
Total Dissolved Solids	11000		10	10	mg/L			07/28/11 12:55	1
Total Suspended Solids	69		3.0	3.0	mg/L			07/27/11 15:45	1
Carbonaceous Biochemical Oxygen Demand	250		20	20	mg/L			07/27/11 10:00	10
Biochemical Oxygen Demand	250		20	20	mg/L			07/27/11 14:00	10

### Method: SM 9222D - Coliforms, Fecal (Membrane Filter)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coliform, Fecal	<40		40	40	CFU/100mL			07/26/11 15:45	10

# QC Sample Results

Client: TRC Environmental Corporation  
Project/Site: Falcon Tank 26

TestAmerica Job ID: 560-27236-1

## Method: 20B - Sodium Adsorption Ratio

Lab Sample ID: MB 560-62317/1-A

Matrix: Water

Analysis Batch: 62516

Client Sample ID: Method Blank

Prep Type: Soluble

Prep Batch: 62317

Analyte	MB Result	MB Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Ca	0.000				mg/L		07/28/11 08:00	08/02/11 14:43	1
Mg	0.000				mg/L		07/28/11 08:00	08/02/11 14:43	1
Na	0.000				mg/L		07/28/11 08:00	08/02/11 14:43	1
Sodium Adsorption Ratio	0.000			NONE			07/28/11 08:00	08/02/11 14:43	1

## Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 560-62524/1

Matrix: Water

Analysis Batch: 62524

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	<0.78		5.0	0.78	mg/L			08/02/11 09:00	1

Lab Sample ID: LCS 560-62524/2

Matrix: Water

Analysis Batch: 62524

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
HEM (Oil & Grease)	40.0	32.9		mg/L		82	78 - 114

## Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 560-62465/3-A

Matrix: Water

Analysis Batch: 62464

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 62465

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	<0.045		0.20	0.045	mg/L		08/01/11 10:00	08/01/11 12:06	1

Lab Sample ID: LCS 560-62465/4-A

Matrix: Water

Analysis Batch: 62464

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 62465

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Ammonia as N	5.00	5.42		mg/L		108	90 - 110

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 600-59428/10

Matrix: Water

Analysis Batch: 59428

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	<0.38		1.0	0.38	mg/L			07/28/11 17:01	1

# QC Sample Results

Client: TRC Environmental Corporation  
Project/Site: Falcon Tank 26

TestAmerica Job ID: 560-27236-1

## Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: LCS 600-59428/11

Matrix: Water

Analysis Batch: 59428

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS			Unit	D	% Rec.	Limits
		Result	Qualifier	mg/L				
Nitrogen, Kjeldahl	10.0	9.86		mg/L		99	99	90 - 110

## Method: 8000 - COD

Lab Sample ID: MB 560-62316/4-A

Matrix: Water

Analysis Batch: 62316

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 62316

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chemical Oxygen Demand	<3.1		40	3.1	mg/L		07/28/11 09:15	07/28/11 09:15	1

Lab Sample ID: LCS 560-62316/3-A

Matrix: Water

Analysis Batch: 62318

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 62316

Analyte	Spike		RL	MDL	Unit	D	% Rec.	Limits
	Added	Result						
Chemical Oxygen Demand	60.0	54.8		3.1	mg/L		91	80 - 120

## Method: 9040C - pH

Lab Sample ID: LCS 560-62235/2

Matrix: Water

Analysis Batch: 62235

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike		RL	MDL	Unit	D	% Rec.	Limits
	Added	Result						
pH	4.99	5.05		SU		101	101	98 - 102

## Method: 9056 - Anions, Ion Chromatography

Lab Sample ID: MB 560-62249/4

Matrix: Water

Analysis Batch: 62249

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<0.19		1.0	0.19	mg/L			07/26/11 17:10	1
Nitrate as N	<0.10		0.50	0.10	mg/L			07/26/11 17:10	1
Nitrate Nitrite as N	<0.20		0.50	0.20	mg/L			07/26/11 17:10	1
Sulfate	<0.38		1.0	0.38	mg/L			07/26/11 17:10	1

Lab Sample ID: LCS 560-62249/5

Matrix: Water

Analysis Batch: 62249

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike		RL	MDL	Unit	D	% Rec.	Limits
	Added	Result						
Chloride	10.0	9.94		mg/L		99	99	80 - 120
Nitrate as N	5.00	5.29		mg/L		106	106	80 - 120
Nitrate Nitrite as N	10.0	10.7		mg/L		107	107	80 - 120
Sulfate	25.0	24.7		mg/L		99	99	80 - 120

# QC Sample Results

Client: TRC Environmental Corporation  
Project/Site: Falcon Tank 26

TestAmerica Job ID: 560-27236-1

## Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 560-62378/3

Matrix: Water

Analysis Batch: 62378

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0	1.0	umhos/cm			07/29/11 10:00	1

Lab Sample ID: LCS 560-62378/4

Matrix: Water

Analysis Batch: 62378

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Specific Conductance	1000	1010		umhos/cm		101	90 - 110

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 560-62338/1

Matrix: Water

Analysis Batch: 62338

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			07/28/11 12:55	1

Lab Sample ID: LCS 560-62338/2

Matrix: Water

Analysis Batch: 62338

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Total Dissolved Solids	2250	2140		mg/L		95	80 - 120

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 560-62293/1

Matrix: Water

Analysis Batch: 62293

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<3.0		3.0	3.0	mg/L			07/27/11 15:45	1

Lab Sample ID: LCS 560-62293/2

Matrix: Water

Analysis Batch: 62293

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Total Suspended Solids	200	204		mg/L		102	80 - 120

## Method: SM 4500 Cl F - Chlorine, Residual

Lab Sample ID: MB 560-62229/1

Matrix: Water

Analysis Batch: 62229

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine, Total Residual	<0.077		0.20	0.077	mg/L			07/26/11 14:50	1

# QC Sample Results

Client: TRC Environmental Corporation  
Project/Site: Falcon Tank 26

TestAmerica Job ID: 560-27236-1

## Method: SM 4500 CI F - Chlorine, Residual (Continued)

**Lab Sample ID:** LCS 560-62229/2

**Matrix:** Water

**Analysis Batch:** 62229

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA

Analyte		Spike	LCS	LCS	Unit	D	% Rec	% Rec.
		Added	Result	Qualifier				
Chlorine, Total Residual		1.00	1.01		mg/L	101	101	90 - 110

**Lab Sample ID:** 560-27236-1 DU

**Matrix:** Water

**Analysis Batch:** 62229

**Client Sample ID:** Tank 26  
**Prep Type:** Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Chlorine, Total Residual	<0.077	HF	<0.077		mg/L		NC	20

## Method: SM 4500 F C - Fluoride

**Lab Sample ID:** MB 560-62518/3

**Matrix:** Water

**Analysis Batch:** 62518

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Fluoride	<0.020		0.10	0.020	mg/L			07/29/11 08:45	1

**Lab Sample ID:** LCS 560-62518/4

**Matrix:** Water

**Analysis Batch:** 62518

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA

Analyte	Spike	LCS	LCS	Unit	D	% Rec	Limits
	Added	Result	Qualifier				
Fluoride	0.800	0.764		mg/L		96	85 - 115

## Method: SM 4500 P E - Phosphorus

**Lab Sample ID:** MB 600-59560/8-A

**Matrix:** Water

**Analysis Batch:** 59561

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA  
**Prep Batch:** 59560

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Phosphorus as P	<0.013		0.050	0.013	mg/Kg		08/01/11 06:08	08/01/11 06:23	1

**Lab Sample ID:** LCS 600-59560/9-A

**Matrix:** Water

**Analysis Batch:** 59561

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA  
**Prep Batch:** 59560

Analyte	Spike	LCS	LCS	Unit	D	% Rec	Limits
	Added	Result	Qualifier				
Phosphorus as P	0.500	0.500		mg/Kg		100	90 - 110

## Method: SM 5210B - BOD, 5-Day

**Lab Sample ID:** USB 560-62284/1 USB

**Matrix:** Water

**Analysis Batch:** 62284

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA

Analyte	USB	USB	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Carbonaceous Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			07/27/11 10:00	1

TestAmerica Corpus Christi

# QC Sample Results

Client: TRC Environmental Corporation  
Project/Site: Falcon Tank 26

TestAmerica Job ID: 560-27236-1

## Method: SM 5210B - BOD, 5-Day (Continued)

**Lab Sample ID: USB 560-62284/2 USB** Client Sample ID: Method Blank  
**Matrix: Water** Prep Type: Total/NA  
**Analysis Batch: 62284**

Analyte	USB Result	USB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbonaceous Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			07/27/11 10:00	1

**Lab Sample ID: LCS 560-62284/3** Client Sample ID: Lab Control Sample  
**Matrix: Water** Prep Type: Total/NA  
**Analysis Batch: 62284**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Carbonaceous Biochemical Oxygen Demand	198	199		mg/L		101	84.6 - 115. 4

**Lab Sample ID: USB 560-62285/1 USB** Client Sample ID: Method Blank  
**Matrix: Water** Prep Type: Total/NA  
**Analysis Batch: 62285**

Analyte	USB Result	USB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			07/27/11 12:00	1

**Lab Sample ID: USB 560-62285/2 USB** Client Sample ID: Method Blank  
**Matrix: Water** Prep Type: Total/NA  
**Analysis Batch: 62285**

Analyte	USB Result	USB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			07/27/11 12:00	1

**Lab Sample ID: LCS 560-62285/3** Client Sample ID: Lab Control Sample  
**Matrix: Water** Prep Type: Total/NA  
**Analysis Batch: 62285**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Biochemical Oxygen Demand	198	191		mg/L		96	84.6 - 115. 4

## Method: SM 5310B - Organic Carbon, Total (TOC)

**Lab Sample ID: MB 560-62489/3** Client Sample ID: Method Blank  
**Matrix: Water** Prep Type: Total/NA  
**Analysis Batch: 62489**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.404	J	1.0	0.29	mg/L			07/27/11 14:50	1

**Lab Sample ID: LCS 560-62489/4** Client Sample ID: Lab Control Sample  
**Matrix: Water** Prep Type: Total/NA  
**Analysis Batch: 62489**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Total Organic Carbon	100	96.9		mg/L		97	80 - 120

# QC Sample Results

Client: TRC Environmental Corporation  
Project/Site: Falcon Tank 26

TestAmerica Job ID: 560-27236-1

## Method: SM 9222D - Coliforms, Fecal (Membrane Filter)

Lab Sample ID: MB 560-62280/1

Matrix: Water

Analysis Batch: 62280

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coliform, Fecal	<1.0		1.0	1.0	CFU/100mL			07/26/11 15:45	1

Lab Sample ID: MB 560-62280/6

Matrix: Water

Analysis Batch: 62280

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coliform, Fecal	<1.0		1.0	1.0	CFU/100mL			07/26/11 15:45	1

Lab Sample ID: 560-27236-1 DU

Matrix: Water

Analysis Batch: 62280

Client Sample ID: Tank 26  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU	DU	RPD	Limit
Coliform, Fecal	<40		<40		NC	20

## Certification Summary

Client: TRC Environmental Corporation  
Project/Site: Falcon Tank 26

TestAmerica Job ID: 560-27236-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Corpus Christi	Kansas	NELAC	7	E-10362
TestAmerica Corpus Christi	Oklahoma	State Program	6	9968
TestAmerica Corpus Christi	Texas	NELAC	6	T104704210-11-5
TestAmerica Corpus Christi	USDA	USDA		P330-11-00060
TestAmerica Houston	Arkansas	State Program	6	88-0759
TestAmerica Houston	Louisiana	NELAC	6	30643
TestAmerica Houston	Oklahoma	State Program	6	9503
TestAmerica Houston	Texas	NELAC	6	T104704223-10-6-TX
TestAmerica Houston	USDA	USDA		P330-08-00217
TestAmerica Houston	Utah	NELAC	8	GULF

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

## Method Summary

Client: TRC Environmental Corporation  
Project/Site: Falcon Tank 26

TestAmerica Job ID: 560-27236-1

Method	Method Description	Protocol	Laboratory
20B	Sodium Adsorption Ratio	USDA	TAL CC
1664A	HEM and SGT-HEM	1664A	TAL CC
350.1	Nitrogen, Ammonia	MCAWW	TAL CC
351.2	Nitrogen, Organic	MCAWW	TAL CC
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL HOU
8000	COD	Hach	TAL CC
9040C	pH	SW846	TAL CC
9056	Anions, Ion Chromatography	SW846	TAL CC
SM 2510B	Conductivity, Specific Conductance	SM	TAL CC
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CC
SM 4500 CI F	Chlorine, Residual	SM	TAL CC
SM 4500 F C	Fluoride	SM	TAL CC
SM 4500 P E	Phosphorus	SM	TAL HOU
SM 5210B	BOD, 5-Day	SM	TAL CC
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL CC
SM 9222D	Coliforms, Fecal (Membrane Filter)	SM	TAL CC

### Protocol References:

1664A = EPA-821-98-002

Hach = Hach Company

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

USDA = "USDA Agriculture Handbook 60, section 20B".

### Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

## Sample Summary

Client: TRC Environmental Corporation  
Project/Site: Falcon Tank 26

TestAmerica Job ID: 560-27236-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-27236-1	Tank 26	Water	07/26/11 11:45	07/26/11 13:56

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## CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION		PROJECT INFORMATION		ANALYSIS/METHOD REQUEST		LAB JOB NO.	
COMPANY: <b>TRC</b>	SEND REPORT TO: <b>CHRIS MANSURI</b>	PROJECT NAME/NUMBER: <b>FALCON</b>	BILLING INFORMATION	NUMBER OF CONTAINERS	SEE ATTACHED LIST	Loc: 560 <b>27236</b>	
ADDRESS: <b>8140 Walnut Hill Ln, Ste 500</b> <b>Dallas, Tx 75231</b>	cmansuri@trcsolutions.com, shalasz@trcsolutions.com	BILL TO: <b>SAME</b>	ADDRESS:			SEAL INTACT <b>Yes</b>	
PHONE: <b>512.923.9590</b>	PHONE:			COOLER TEMP <b>12.9/3</b>			
FAX: <b>512.329.8750</b>	FAX:	PO NO: <b>34989</b>		IR GUN ID <b>4</b>			
SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER	PRESERV.	REMARKS/PRECAUTIONS.
	<b>Tank 26</b>	<b>7.26.11</b>	<b>11:45</b>	<b>WATER</b>	<b>HCL</b>	<b>H<sub>2</sub>SO<sub>4</sub></b>	<b>9</b>
SAMPLER: <b>Paul Supak</b>		SHIPMENT METHOD: <b>Drop off</b>		AIRBILL NO.:			
REQUIRED TURNAROUND <input type="checkbox"/> ROUTINE TAT (10 BUSINESS DAYS) <input checked="" type="checkbox"/> RUSH TAT (MAY REQUIRE SURCHARGE)							
1. RELINQUISHED BY	DATE	2. RELINQUISHED BY	DATE	3. RELINQUISHED BY	DATE		
SIGNATURE: <b>Paul Supak</b>	<b>7/26/11</b>	SIGNATURE:		SIGNATURE:			
PRINTED NAME/COMPANY: <b>GAINCO INC</b>	<b>TIME 13:56</b>	PRINTED NAME/COMPANY:		PRINTED NAME/COMPANY:			
4. RECEIVED BY	DATE	5. RECEIVED BY	DATE	6. RECEIVED BY	DATE		
SIGNATURE: <b>Ali J Majeed</b>	<b>7/26/11</b>	SIGNATURE:		SIGNATURE:			
PRINTED NAME/COMPANY: <b>TACE</b>	<b>TIME 13:56</b>	PRINTED NAME/COMPANY:		PRINTED NAME/COMPANY:			

TestAmerica

1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone: 361.289.2673/Fax: 361.289.2471

TAL-8222-560 (1209)

**Padilla, Erica**

---

**From:** Mansuri, Chris (Austin,TX-US) [CMansuri@trcsolutions.com]  
**Sent:** Wednesday, July 20, 2011 4:18 PM  
**To:** Padilla, Erica  
**Subject:** Request for Quote

BOD (5-day)  
CBOD (5-day)  
Chemical Oxygen Demand  
Total Organic Carbon  
Ammonia Nitrogen  
Total Suspended Solids  
Nitrate Nitrogen  
Total Organic Nitrogen  
Total Phosphorus  
Oil and Grease  
Total Residual Chlorine  
Total Dissolved Solids  
Sulfate  
Chloride  
Fluoride  
Fecal Coliform  
Specific Conductance (mmhos/cm)  
pH (Standard Units; min/max)  
Soluble Sodium  
Soluble Calcium  
Soluble Magnesium  
SAR

## Login Sample Receipt Checklist

Client: TRC Environmental Corporation

Job Number: 560-27236-1

**Login Number:** 27236

**List Source:** TestAmerica Corpus Christi

**List Number:** 1

**Creator:** Magee, Alice J.

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

## Login Sample Receipt Checklist

Client: TRC Environmental Corporation

Job Number: 560-27236-1

**Login Number:** 27236

**List Source:** TestAmerica Houston

**List Number:** 1

**List Creation:** 07/27/11 09:46 AM

**Creator:** Fuentes Jr, Fabio

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-26154-1

Client Project/Site: Falcon

For:

TRC Solutions, Inc.  
10011 Meadowglen  
Suite 100  
Houston, Texas 77042

Attn: Richard Kotzur

*Erica Padilla*

---

Authorized for release by:  
05/27/2011 02:22:35 PM

Erica Padilla  
Project Manager I  
[erica.padilla@testamericainc.com](mailto:erica.padilla@testamericainc.com)

### LINKS

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The  
Expert

Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all 2003 NELAC requirements for accredited parameters, exceptions are noted in this report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

# Definitions/Glossary

Client: TRC Solutions, Inc.  
Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
⊗	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

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# Case Narrative

Client: TRC Solutions, Inc.  
Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

## Job ID: 560-26154-1

Laboratory: TestAmerica Corpus Christi

### Narrative

Job Narrative  
560-26154-1

### Comments

No additional comments.

### Receipt

All samples were received in good condition within temperature requirements.

### GC/MS VOA

No analytical or quality issues were noted.

### GC/MS Semi VOA

Method 8270C: The following samples were diluted due to the nature of the sample extract: 560-26154-1, -2, -3, and -4. Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

### Metals

No analytical or quality issues were noted.

### Organic Prep

Method 3520C: Insufficient sample volume was provided to perform matrix spike/matrix spike duplicate (MS/MSD) for preparation batch 59985.

No other analytical or quality issues were noted.

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# Detection Summary

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

## Client Sample ID: Tank 26

Lab Sample ID: 560-26154-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	29	J	50	25	ug/L	5	8260B	Total/NA	1
Methyl tert-butyl ether	780		5.0	1.0	ug/L	5	8260B	Total/NA	2
Benzene	320		5.0	0.70	ug/L	5	8260B	Total/NA	3
Toluene	50		5.0	1.5	ug/L	5	8260B	Total/NA	4
Ethylbenzene	130		5.0	1.0	ug/L	5	8260B	Total/NA	5
1,3,5-Trimethylbenzene	12		5.0	1.0	ug/L	5	8260B	Total/NA	6
1,2,4-Trimethylbenzene	44		5.0	1.0	ug/L	5	8260B	Total/NA	7
Xylenes, Total	250		15	1.1	ug/L	5	8260B	Total/NA	8
2-Methylphenol	9.7	J	54	2.6	ug/L	5	8270C	Total/NA	9
2,4-Dimethylphenol	39	J	54	3.0	ug/L	5	8270C	Total/NA	10
Naphthalene	210		54	2.6	ug/L	5	8270C	Total/NA	11
2-Methylnaphthalene	23	J	54	2.3	ug/L	5	8270C	Total/NA	12
Acenaphthene	4.2	J	54	3.1	ug/L	5	8270C	Total/NA	13
Fluorene	16	J	54	3.3	ug/L	5	8270C	Total/NA	14
Phenanthren	12	J	54	2.8	ug/L	5	8270C	Total/NA	15
Anthracene	3.0	J	54	2.2	ug/L	5	8270C	Total/NA	16
Fluoranthene	6.5	J	54	2.7	ug/L	5	8270C	Total/NA	17
Pyrene	18	J	54	5.4	ug/L	5	8270C	Total/NA	18
Benzo[a]anthracene	9.9	J	54	2.7	ug/L	5	8270C	Total/NA	19
Chrysene	21	J	54	2.7	ug/L	5	8270C	Total/NA	20
Bis(2-ethylhexyl) phthalate	11	J	54	10	ug/L	5	8270C	Total/NA	21
Benzo[b]fluoranthene	4.5	J	54	2.7	ug/L	5	8270C	Total/NA	22
Benzo[a]pyrene	7.0	J	54	2.7	ug/L	5	8270C	Total/NA	23
Benzo[g,h,i]perylene	2.8	J	54	2.7	ug/L	5	8270C	Total/NA	24
Ba	0.75		0.010	0.0020	mg/L	1	6010B	Total/NA	25
Cd	0.00043	J	0.0050	0.00034	mg/L	1	6010B	Total/NA	26
Cr	0.0030	J	0.010	0.0011	mg/L	1	6010B	Total/NA	27
Pb	0.022		0.010	0.0033	mg/L	1	6010B	Total/NA	28

## Client Sample ID: Tank 10

Lab Sample ID: 560-26154-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	15		10	5.0	ug/L	1	8260B	Total/NA	1
Methyl tert-butyl ether	1.7		1.0	0.20	ug/L	1	8260B	Total/NA	2
Benzene	7.3		1.0	0.14	ug/L	1	8260B	Total/NA	3
Toluene	0.67	J	1.0	0.30	ug/L	1	8260B	Total/NA	4
Ethylbenzene	1.2		1.0	0.20	ug/L	1	8260B	Total/NA	5
1,3,5-Trimethylbenzene	1.2		1.0	0.20	ug/L	1	8260B	Total/NA	6
1,2,4-Trimethylbenzene	1.3		1.0	0.20	ug/L	1	8260B	Total/NA	7
Xylenes, Total	4.4		3.0	0.23	ug/L	1	8260B	Total/NA	8
Pyrene	2.9	J	22	2.2	ug/L	2	8270C	Total/NA	9
Benzo[a]anthracene	1.1	J	22	1.1	ug/L	2	8270C	Total/NA	10
Chrysene	2.0	J	22	1.1	ug/L	2	8270C	Total/NA	11
Ba	0.18		0.010	0.0020	mg/L	1	6010B	Total/NA	12
Cd	0.0021	J	0.0050	0.00034	mg/L	1	6010B	Total/NA	13
Cr	0.0057	J	0.010	0.0011	mg/L	1	6010B	Total/NA	14
Pb	0.028		0.010	0.0033	mg/L	1	6010B	Total/NA	15
Mercury	0.00016	J	0.0020	0.00013	mg/L	1	7470A	Total/NA	16

## Client Sample ID: Tank 30

Lab Sample ID: 560-26154-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2500		20	2.8	ug/L	20	8260B	Total/NA	1
4-Methyl-2-pentanone (MIBK)	7.2	J	100	2.3	ug/L	20	8260B	Total/NA	2

TestAmerica Corpus Christi

# Detection Summary

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

## Client Sample ID: Tank 30 (Continued)

Lab Sample ID: 560-26154-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	290		20	4.0	ug/L	20	8260B		Total/NA
1,3,5-Trimethylbenzene	68		20	4.0	ug/L	20	8260B		Total/NA
1,2,4-Trimethylbenzene	190		20	4.0	ug/L	20	8260B		Total/NA
Xylenes, Total	1400		60	4.5	ug/L	20	8260B		Total/NA
Phenol	8.4 J		53	5.3	ug/L	5	8270C		Total/NA
3 & 4 Methylphenol	6.3 J		110	4.7	ug/L	5	8270C		Total/NA
2,4-Dimethylphenol	110		53	3.0	ug/L	5	8270C		Total/NA
Naphthalene	180		53	2.5	ug/L	5	8270C		Total/NA
2-Methylnaphthalene	200		53	2.3	ug/L	5	8270C		Total/NA
Acenaphthene	10 J		53	3.0	ug/L	5	8270C		Total/NA
Fluorene	13 J		53	3.2	ug/L	5	8270C		Total/NA
Phenanthrene	44 J		53	2.7	ug/L	5	8270C		Total/NA
Anthracene	7.5 J		53	2.1	ug/L	5	8270C		Total/NA
Fluoranthene	6.6 J		53	2.7	ug/L	5	8270C		Total/NA
Pyrene	38 J		53	5.3	ug/L	5	8270C		Total/NA
Benzo[a]anthracene	14 J		53	2.7	ug/L	5	8270C		Total/NA
Chrysene	25 J		53	2.7	ug/L	5	8270C		Total/NA
Bis(2-ethylhexyl) phthalate	11 J		53	10	ug/L	5	8270C		Total/NA
Benzo[b]fluoranthene	6.2 J		53	2.7	ug/L	5	8270C		Total/NA
Benzo[a]pyrene	9.1 J		53	2.7	ug/L	5	8270C		Total/NA
Benzo[g,h,i]perylene	3.8 J		53	2.7	ug/L	5	8270C		Total/NA
Ba	3.6		0.010	0.0020	mg/L	1	6010B		Total/NA
Cr	0.0064 J		0.010	0.0011	mg/L	1	6010B		Total/NA
Pb	0.0081 J		0.010	0.0033	mg/L	1	6010B		Total/NA
Mercury	0.0013 J		0.0020	0.00013	mg/L	1	7470A		Total/NA

## Client Sample ID: Tank 7

Lab Sample ID: 560-26154-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	1500		14	2.8	ug/L	14	8260B		Total/NA
Benzene	240		14	2.0	ug/L	14	8260B		Total/NA
Toluene	510		14	4.2	ug/L	14	8260B		Total/NA
4-Methyl-2-pentanone (MIBK)	3.1 J		70	1.6	ug/L	14	8260B		Total/NA
Ethylbenzene	170		14	2.8	ug/L	14	8260B		Total/NA
1,3,5-Trimethylbenzene	21		14	2.8	ug/L	14	8260B		Total/NA
1,2,4-Trimethylbenzene	81		14	2.8	ug/L	14	8260B		Total/NA
Xylenes, Total	530		42	3.2	ug/L	14	8260B		Total/NA
Phenol	9.8 J		55	5.5	ug/L	5	8270C		Total/NA
2-Methylphenol	33 J		55	2.7	ug/L	5	8270C		Total/NA
2,4-Dimethylphenol	66		55	3.1	ug/L	5	8270C		Total/NA
Naphthalene	370		55	2.6	ug/L	5	8270C		Total/NA
2-Methylnaphthalene	220		55	2.4	ug/L	5	8270C		Total/NA
Acenaphthene	14 J		55	3.1	ug/L	5	8270C		Total/NA
Fluorene	30 J		55	3.3	ug/L	5	8270C		Total/NA
Phenanthrene	170		55	2.8	ug/L	5	8270C		Total/NA
Anthracene	8.7 J		55	2.2	ug/L	5	8270C		Total/NA
Fluoranthene	5.8 J		55	2.7	ug/L	5	8270C		Total/NA
Pyrene	19 J		55	5.5	ug/L	5	8270C		Total/NA
Benzo[a]anthracene	7.1 J		55	2.7	ug/L	5	8270C		Total/NA
Chrysene	16 J		55	2.7	ug/L	5	8270C		Total/NA
Bis(2-ethylhexyl) phthalate	89		55	10	ug/L	5	8270C		Total/NA
Benzo[b]fluoranthene	3.5 J		55	2.7	ug/L	5	8270C		Total/NA
As	0.0095 J		0.010	0.0035	mg/L	1	6010B		Total/NA
Ba	0.88		0.010	0.0020	mg/L	1	6010B		Total/NA

TestAmerica Corpus Christi

## Detection Summary

Client: TRC Solutions, Inc.  
Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

### Client Sample ID: Tank 7 (Continued)

### Lab Sample ID: 560-26154-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cd	0.00052	J	0.0050	0.00034	mg/L	1		6010B	Total/NA
Cr	0.016		0.010	0.0011	mg/L	1		6010B	Total/NA
Pb	0.12		0.010	0.0033	mg/L	1		6010B	Total/NA
Mercury	0.00031	J	0.0020	0.00013	mg/L	1		7470A	Total/NA

# Client Sample Results

Client: TRC Solutions, Inc.  
Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

**Client Sample ID: Tank 26**

**Lab Sample ID: 560-26154-1**

Date Collected: 05/20/11 10:10  
Date Received: 05/20/11 16:30

Matrix: Water

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	<2.1		25	2.1	ug/L			05/26/11 17:51	5
Chloromethane	<2.0		25	2.0	ug/L			05/26/11 17:51	5
Vinyl chloride	<1.5		5.0	1.5	ug/L			05/26/11 17:51	5
Bromomethane	<2.0		25	2.0	ug/L			05/26/11 17:51	5
Chloroethane	<2.0		25	2.0	ug/L			05/26/11 17:51	5
Trichlorofluoromethane	<1.2		5.0	1.2	ug/L			05/26/11 17:51	5
Ethyl ether	<0.68		5.0	0.68	ug/L			05/26/11 17:51	5
1,1-Dichloroethene	<1.5		5.0	1.5	ug/L			05/26/11 17:51	5
Carbon disulfide	<2.5		25	2.5	ug/L			05/26/11 17:51	5
Iodomethane	<1.1		5.0	1.1	ug/L			05/26/11 17:51	5
Methylene Chloride	<10		25	10	ug/L			05/26/11 17:51	5
<b>Acetone</b>	<b>29</b>	<b>J</b>	50	25	ug/L			05/26/11 17:51	5
trans-1,2-Dichloroethene	<1.0		5.0	1.0	ug/L			05/26/11 17:51	5
<b>Methyl tert-butyl ether</b>	<b>780</b>		5.0	1.0	ug/L			05/26/11 17:51	5
Acetonitrile	<50		250	50	ug/L			05/26/11 17:51	5
1,1-Dichloroethane	<0.84		5.0	0.84	ug/L			05/26/11 17:51	5
Vinyl acetate	<1.5		25	1.5	ug/L			05/26/11 17:51	5
cis-1,2-Dichloroethene	<0.60		5.0	0.60	ug/L			05/26/11 17:51	5
2,2-Dichloropropane	<1.7		5.0	1.7	ug/L			05/26/11 17:51	5
Chloroform	<1.0		5.0	1.0	ug/L			05/26/11 17:51	5
Ethyl acetate	<1.5		25	1.5	ug/L			05/26/11 17:51	5
Carbon tetrachloride	<1.3		5.0	1.3	ug/L			05/26/11 17:51	5
1,1,1-Trichloroethane	<1.5		5.0	1.5	ug/L			05/26/11 17:51	5
1,1-Dichloropropene	<0.92		5.0	0.92	ug/L			05/26/11 17:51	5
<b>Benzene</b>	<b>320</b>		5.0	0.70	ug/L			05/26/11 17:51	5
1,2-Dichloroethane	<0.80		5.0	0.80	ug/L			05/26/11 17:51	5
Trichloroethene	<1.6		5.0	1.6	ug/L			05/26/11 17:51	5
Dibromomethane	<0.82		5.0	0.82	ug/L			05/26/11 17:51	5
1,2-Dichloropropane	<0.86		5.0	0.86	ug/L			05/26/11 17:51	5
Dichlorobromomethane	<0.88		5.0	0.88	ug/L			05/26/11 17:51	5
Methyl methacrylate	<0.98		25	0.98	ug/L			05/26/11 17:51	5
1,4-Dioxane	<200		500	200	ug/L			05/26/11 17:51	5
cis-1,3-Dichloropropene	<0.73		5.0	0.73	ug/L			05/26/11 17:51	5
<b>Toluene</b>	<b>50</b>		5.0	1.5	ug/L			05/26/11 17:51	5
2-Nitropropane	<5.0		25	5.0	ug/L			05/26/11 17:51	5
4-Methyl-2-pentanone (MIBK)	<0.58		25	0.58	ug/L			05/26/11 17:51	5
trans-1,3-Dichloropropene	<1.0		5.0	1.0	ug/L			05/26/11 17:51	5
Tetrachloroethene	<0.94		5.0	0.94	ug/L			05/26/11 17:51	5
Ethyl methacrylate	<0.55		25	0.55	ug/L			05/26/11 17:51	5
1,1,2-Trichloroethane	<0.86		5.0	0.86	ug/L			05/26/11 17:51	5
Chlorodibromomethane	<1.1		5.0	1.1	ug/L			05/26/11 17:51	5
1,3-Dichloropropane	<0.73		5.0	0.73	ug/L			05/26/11 17:51	5
Ethylene Dibromide	<0.75		5.0	0.75	ug/L			05/26/11 17:51	5
2-Hexanone	<1.0		25	1.0	ug/L			05/26/11 17:51	5
Chlorobenzene	<0.68		5.0	0.68	ug/L			05/26/11 17:51	5
<b>Ethylbenzene</b>	<b>130</b>		5.0	1.0	ug/L			05/26/11 17:51	5
Bromoform	<2.5		25	2.5	ug/L			05/26/11 17:51	5
Styrene	<1.0		5.0	1.0	ug/L			05/26/11 17:51	5
1,1,2,2-Tetrachloroethane	<0.95		5.0	0.95	ug/L			05/26/11 17:51	5

# Client Sample Results

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

**Client Sample ID: Tank 26**

**Lab Sample ID: 560-26154-1**

Date Collected: 05/20/11 10:10

Matrix: Water

Date Received: 05/20/11 16:30

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	<0.96		5.0	0.96	ug/L			05/26/11 17:51	5
<b>1,3,5-Trimethylbenzene</b>	<b>12</b>		5.0	1.0	ug/L			05/26/11 17:51	5
<b>1,2,4-Trimethylbenzene</b>	<b>44</b>		5.0	1.0	ug/L			05/26/11 17:51	5
1,2,3-Trichlorobenzene	<1.1		25	1.1	ug/L			05/26/11 17:51	5
2-Butanone (MEK)	<2.4		25	2.4	ug/L			05/26/11 17:51	5
1,1,2-Trichloro-1,2,2-trifluoroethane	<1.4		5.0	1.4	ug/L			05/26/11 17:51	5
<b>Xylenes, Total</b>	<b>250</b>		15	1.1	ug/L			05/26/11 17:51	5
<b>Surrogate</b>		<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)		95		70 - 130				05/26/11 17:51	5
1,2-Dichloroethane-d4 (Surr)		113		70 - 130				05/26/11 17:51	5
Toluene-d8 (Surr)		104		70 - 130				05/26/11 17:51	5
4-Bromofluorobenzene (Surr)		98		70 - 130				05/26/11 17:51	5

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<5.4		54	5.4	ug/L		05/24/11 15:00	05/25/11 12:39	5
Bis(2-chloroethyl)ether	<3.8		54	3.8	ug/L		05/24/11 15:00	05/25/11 12:39	5
2-Chlorophenol	<2.0		54	2.0	ug/L		05/24/11 15:00	05/25/11 12:39	5
1,3-Dichlorobenzene	<11		54	11	ug/L		05/24/11 15:00	05/25/11 12:39	5
1,4-Dichlorobenzene	<4.0		54	4.0	ug/L		05/24/11 15:00	05/25/11 12:39	5
Benzyl alcohol	<7.4		54	7.4	ug/L		05/24/11 15:00	05/25/11 12:39	5
1,2-Dichlorobenzene	<2.7		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>2-Methylphenol</b>	<b>9.7 J</b>		54	2.6	ug/L		05/24/11 15:00	05/25/11 12:39	5
3 & 4 Methylphenol	<4.8		110	4.8	ug/L		05/24/11 15:00	05/25/11 12:39	5
N-Nitrosodi-n-propylamine	<3.5		54	3.5	ug/L		05/24/11 15:00	05/25/11 12:39	5
Hexachloroethane	<5.4		54	5.4	ug/L		05/24/11 15:00	05/25/11 12:39	5
Nitrobenzene	<1.8		54	1.8	ug/L		05/24/11 15:00	05/25/11 12:39	5
Isophorone	<3.4		54	3.4	ug/L		05/24/11 15:00	05/25/11 12:39	5
2-Nitrophenol	<2.2		54	2.2	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>2,4-Dimethylphenol</b>	<b>39 J</b>		54	3.0	ug/L		05/24/11 15:00	05/25/11 12:39	5
Bis(2-chloroethoxy)methane	<3.2		54	3.2	ug/L		05/24/11 15:00	05/25/11 12:39	5
2,4-Dichlorophenol	<2.1		54	2.1	ug/L		05/24/11 15:00	05/25/11 12:39	5
1,2,4-Trichlorobenzene	<3.2		54	3.2	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Naphthalene</b>	<b>210</b>		54	2.6	ug/L		05/24/11 15:00	05/25/11 12:39	5
4-Chloroaniline	<2.5		54	2.5	ug/L		05/24/11 15:00	05/25/11 12:39	5
Hexachlorobutadiene	<5.4		54	5.4	ug/L		05/24/11 15:00	05/25/11 12:39	5
4-Chloro-3-methylphenol	<2.7		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>2-Methylnaphthalene</b>	<b>23 J</b>		54	2.3	ug/L		05/24/11 15:00	05/25/11 12:39	5
Hexachlorocyclopentadiene	<27		54	27	ug/L		05/24/11 15:00	05/25/11 12:39	5
2,4,6-Trichlorophenol	<2.1		54	2.1	ug/L		05/24/11 15:00	05/25/11 12:39	5
2,4,5-Trichlorophenol	<2.2		54	2.2	ug/L		05/24/11 15:00	05/25/11 12:39	5
2-Chloronaphthalene	<2.7		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
2-Nitroaniline	<2.4		54	2.4	ug/L		05/24/11 15:00	05/25/11 12:39	5
Dimethyl phthalate	<3.0		54	3.0	ug/L		05/24/11 15:00	05/25/11 12:39	5
Acenaphthylene	<2.7		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
2,6-Dinitrotoluene	<2.8		54	2.8	ug/L		05/24/11 15:00	05/25/11 12:39	5
3-Nitroaniline	<9.7		54	9.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Acenaphthene</b>	<b>4.2 J</b>		54	3.1	ug/L		05/24/11 15:00	05/25/11 12:39	5
2,4-Dinitrophenol	<5.0		54	5.0	ug/L		05/24/11 15:00	05/25/11 12:39	5

# Client Sample Results

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

**Client Sample ID: Tank 26**

**Lab Sample ID: 560-26154-1**

Date Collected: 05/20/11 10:10

Matrix: Water

Date Received: 05/20/11 16:30

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<9.6		54	9.6	ug/L		05/24/11 15:00	05/25/11 12:39	5
Dibenzofuran	<2.8		54	2.8	ug/L		05/24/11 15:00	05/25/11 12:39	5
2,4-Dinitrotoluene	<2.1		54	2.1	ug/L		05/24/11 15:00	05/25/11 12:39	5
Diethyl phthalate	<2.8		54	2.8	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Fluorene</b>	<b>16 J</b>		54	3.3	ug/L		05/24/11 15:00	05/25/11 12:39	5
4-Chlorophenyl phenyl ether	<2.8		54	2.8	ug/L		05/24/11 15:00	05/25/11 12:39	5
4-Nitroaniline	<7.9		54	7.9	ug/L		05/24/11 15:00	05/25/11 12:39	5
4,6-Dinitro-2-methylphenol	<9.9		54	9.9	ug/L		05/24/11 15:00	05/25/11 12:39	5
N-Nitrosodiphenylamine	<2.8		54	2.8	ug/L		05/24/11 15:00	05/25/11 12:39	5
4-Bromophenyl phenyl ether	<4.0		54	4.0	ug/L		05/24/11 15:00	05/25/11 12:39	5
Hexachlorobenzene	<3.5		54	3.5	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Phenanthrene</b>	<b>12 J</b>		54	2.8	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Anthracene</b>	<b>3.0 J</b>		54	2.2	ug/L		05/24/11 15:00	05/25/11 12:39	5
Di-n-butyl phthalate	<2.7		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Fluoranthene</b>	<b>6.5 J</b>		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Pyrene</b>	<b>18 J</b>		54	5.4	ug/L		05/24/11 15:00	05/25/11 12:39	5
Butyl benzyl phthalate	<2.7		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Benzo[a]anthracene</b>	<b>9.9 J</b>		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Chrysene</b>	<b>21 J</b>		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Bis(2-ethylhexyl) phthalate</b>	<b>11 J</b>		54	10	ug/L		05/24/11 15:00	05/25/11 12:39	5
Di-n-octyl phthalate	<2.7		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Benzo[b]fluoranthene</b>	<b>4.5 J</b>		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
Benzo[k]fluoranthene	<2.0		54	2.0	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Benzo[a]pyrene</b>	<b>7.0 J</b>		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
Indeno[1,2,3-cd]pyrene	<2.7		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
Dibenz(a,h)anthracene	<2.7		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Benzo[g,h,i]perylene</b>	<b>2.8 J</b>		54	2.7	ug/L		05/24/11 15:00	05/25/11 12:39	5
3,3'-Dichlorobenzidine	<5.4		54	5.4	ug/L		05/24/11 15:00	05/25/11 12:39	5
Pentachlorophenol	<27		54	27	ug/L		05/24/11 15:00	05/25/11 12:39	5
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>		<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorophenol	42		10 - 130			05/24/11 15:00		05/25/11 12:39	5
Phenol-d5	53		10 - 130			05/24/11 15:00		05/25/11 12:39	5
Nitrobenzene-d5	53		27 - 130			05/24/11 15:00		05/25/11 12:39	5
2-Fluorobiphenyl	36		23 - 130			05/24/11 15:00		05/25/11 12:39	5
2,4,6-Tribromophenol	81		18 - 130			05/24/11 15:00		05/25/11 12:39	5
Terphenyl-d14	37		10 - 141			05/24/11 15:00		05/25/11 12:39	5

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ag	<0.0010		0.0050	0.0010	mg/L		05/24/11 10:00	05/24/11 15:28	1
As	<0.0035		0.010	0.0035	mg/L		05/24/11 10:00	05/24/11 15:28	1
Ba	<b>0.75</b>		0.010	0.0020	mg/L		05/24/11 10:00	05/24/11 15:28	1
Cd	<b>0.00043 J</b>		0.0050	0.00034	mg/L		05/24/11 10:00	05/24/11 15:28	1
Cr	<b>0.0030 J</b>		0.010	0.0011	mg/L		05/24/11 10:00	05/24/11 15:28	1
Pb	<b>0.022</b>		0.010	0.0033	mg/L		05/24/11 10:00	05/24/11 15:28	1
Se	<0.0042		0.010	0.0042	mg/L		05/24/11 10:00	05/24/11 15:28	1

## Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.0020	0.00013	mg/L		05/25/11 14:29	05/25/11 10:57	1

TestAmerica Corpus Christi

# Client Sample Results

Client: TRC Solutions, Inc.  
Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

**Client Sample ID: Tank 10**

**Lab Sample ID: 560-26154-2**

Date Collected: 05/20/11 11:40  
Date Received: 05/20/11 16:30

Matrix: Water

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	<0.43		5.0	0.43	ug/L			05/26/11 18:16	1
Chloromethane	<0.39		5.0	0.39	ug/L			05/26/11 18:16	1
Vinyl chloride	<0.30		1.0	0.30	ug/L			05/26/11 18:16	1
Bromomethane	<0.39		5.0	0.39	ug/L			05/26/11 18:16	1
Chloroethane	<0.40		5.0	0.40	ug/L			05/26/11 18:16	1
Trichlorofluoromethane	<0.24		1.0	0.24	ug/L			05/26/11 18:16	1
Ethyl ether	<0.14		1.0	0.14	ug/L			05/26/11 18:16	1
1,1-Dichloroethene	<0.30		1.0	0.30	ug/L			05/26/11 18:16	1
Carbon disulfide	<0.50		5.0	0.50	ug/L			05/26/11 18:16	1
Iodomethane	<0.22		1.0	0.22	ug/L			05/26/11 18:16	1
Methylene Chloride	<2.0		5.0	2.0	ug/L			05/26/11 18:16	1
<b>Acetone</b>	<b>15</b>		10	5.0	ug/L			05/26/11 18:16	1
trans-1,2-Dichloroethene	<0.20		1.0	0.20	ug/L			05/26/11 18:16	1
<b>Methyl tert-butyl ether</b>	<b>1.7</b>		1.0	0.20	ug/L			05/26/11 18:16	1
Acetonitrile	<10		50	10	ug/L			05/26/11 18:16	1
1,1-Dichloroethane	<0.17		1.0	0.17	ug/L			05/26/11 18:16	1
Vinyl acetate	<0.30		5.0	0.30	ug/L			05/26/11 18:16	1
cis-1,2-Dichloroethene	<0.12		1.0	0.12	ug/L			05/26/11 18:16	1
2,2-Dichloropropane	<0.34		1.0	0.34	ug/L			05/26/11 18:16	1
Chloroform	<0.20		1.0	0.20	ug/L			05/26/11 18:16	1
Ethyl acetate	<0.30		5.0	0.30	ug/L			05/26/11 18:16	1
Carbon tetrachloride	<0.25		1.0	0.25	ug/L			05/26/11 18:16	1
1,1,1-Trichloroethane	<0.30		1.0	0.30	ug/L			05/26/11 18:16	1
1,1-Dichloropropene	<0.18		1.0	0.18	ug/L			05/26/11 18:16	1
<b>Benzene</b>	<b>7.3</b>		1.0	0.14	ug/L			05/26/11 18:16	1
1,2-Dichloroethane	<0.16		1.0	0.16	ug/L			05/26/11 18:16	1
Trichloroethene	<0.32		1.0	0.32	ug/L			05/26/11 18:16	1
Dibromomethane	<0.16		1.0	0.16	ug/L			05/26/11 18:16	1
1,2-Dichloropropane	<0.17		1.0	0.17	ug/L			05/26/11 18:16	1
Dichlorobromomethane	<0.18		1.0	0.18	ug/L			05/26/11 18:16	1
Methyl methacrylate	<0.20		5.0	0.20	ug/L			05/26/11 18:16	1
1,4-Dioxane	<40		100	40	ug/L			05/26/11 18:16	1
cis-1,3-Dichloropropene	<0.15		1.0	0.15	ug/L			05/26/11 18:16	1
<b>Toluene</b>	<b>0.67 J</b>		1.0	0.30	ug/L			05/26/11 18:16	1
2-Nitropropane	<1.0		5.0	1.0	ug/L			05/26/11 18:16	1
4-Methyl-2-pentanone (MIBK)	<0.12		5.0	0.12	ug/L			05/26/11 18:16	1
trans-1,3-Dichloropropene	<0.20		1.0	0.20	ug/L			05/26/11 18:16	1
Tetrachloroethene	<0.19		1.0	0.19	ug/L			05/26/11 18:16	1
Ethyl methacrylate	<0.11		5.0	0.11	ug/L			05/26/11 18:16	1
1,1,2-Trichloroethane	<0.17		1.0	0.17	ug/L			05/26/11 18:16	1
Chlorodibromomethane	<0.22		1.0	0.22	ug/L			05/26/11 18:16	1
1,3-Dichloropropane	<0.15		1.0	0.15	ug/L			05/26/11 18:16	1
Ethylene Dibromide	<0.15		1.0	0.15	ug/L			05/26/11 18:16	1
2-Hexanone	<0.20		5.0	0.20	ug/L			05/26/11 18:16	1
Chlorobenzene	<0.14		1.0	0.14	ug/L			05/26/11 18:16	1
<b>Ethylbenzene</b>	<b>1.2</b>		1.0	0.20	ug/L			05/26/11 18:16	1
Bromoform	<0.50		5.0	0.50	ug/L			05/26/11 18:16	1
Styrene	<0.20		1.0	0.20	ug/L			05/26/11 18:16	1
1,1,2,2-Tetrachloroethane	<0.19		1.0	0.19	ug/L			05/26/11 18:16	1

# Client Sample Results

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

**Client Sample ID: Tank 10**

**Lab Sample ID: 560-26154-2**

Date Collected: 05/20/11 11:40

Matrix: Water

Date Received: 05/20/11 16:30

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	<0.19		1.0	0.19	ug/L			05/26/11 18:16	1
<b>1,3,5-Trimethylbenzene</b>	<b>1.2</b>		1.0	0.20	ug/L			05/26/11 18:16	1
<b>1,2,4-Trimethylbenzene</b>	<b>1.3</b>		1.0	0.20	ug/L			05/26/11 18:16	1
1,2,3-Trichlorobenzene	<0.22		5.0	0.22	ug/L			05/26/11 18:16	1
2-Butanone (MEK)	<0.47		5.0	0.47	ug/L			05/26/11 18:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.28		1.0	0.28	ug/L			05/26/11 18:16	1
<b>Xylenes, Total</b>	<b>4.4</b>		3.0	0.23	ug/L			05/26/11 18:16	1
<b>Surrogate</b>		<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)		92		70 - 130				05/26/11 18:16	1
1,2-Dichloroethane-d4 (Surr)		110		70 - 130				05/26/11 18:16	1
Toluene-d8 (Surr)		103		70 - 130				05/26/11 18:16	1
4-Bromofluorobenzene (Surr)		97		70 - 130				05/26/11 18:16	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<2.2		22	2.2	ug/L		05/24/11 15:00	05/25/11 17:19	2
Bis(2-chloroethyl)ether	<1.5		22	1.5	ug/L		05/24/11 15:00	05/25/11 17:19	2
2-Chlorophenol	<0.78		22	0.78	ug/L		05/24/11 15:00	05/25/11 17:19	2
1,3-Dichlorobenzene	<4.3		22	4.3	ug/L		05/24/11 15:00	05/25/11 17:19	2
1,4-Dichlorobenzene	<1.6		22	1.6	ug/L		05/24/11 15:00	05/25/11 17:19	2
Benzyl alcohol	<2.9		22	2.9	ug/L		05/24/11 15:00	05/25/11 17:19	2
1,2-Dichlorobenzene	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
2-Methylphenol	<1.0		22	1.0	ug/L		05/24/11 15:00	05/25/11 17:19	2
3 & 4 Methylphenol	<1.9		43	1.9	ug/L		05/24/11 15:00	05/25/11 17:19	2
N-Nitrosodi-n-propylamine	<1.4		22	1.4	ug/L		05/24/11 15:00	05/25/11 17:19	2
Hexachloroethane	<2.2		22	2.2	ug/L		05/24/11 15:00	05/25/11 17:19	2
Nitrobenzene	<0.72		22	0.72	ug/L		05/24/11 15:00	05/25/11 17:19	2
Isophorone	<1.3		22	1.3	ug/L		05/24/11 15:00	05/25/11 17:19	2
2-Nitrophenol	<0.88		22	0.88	ug/L		05/24/11 15:00	05/25/11 17:19	2
2,4-Dimethylphenol	<1.2		22	1.2	ug/L		05/24/11 15:00	05/25/11 17:19	2
Bis(2-chloroethoxy)methane	<1.3		22	1.3	ug/L		05/24/11 15:00	05/25/11 17:19	2
2,4-Dichlorophenol	<0.83		22	0.83	ug/L		05/24/11 15:00	05/25/11 17:19	2
1,2,4-Trichlorobenzene	<1.3		22	1.3	ug/L		05/24/11 15:00	05/25/11 17:19	2
Naphthalene	<1.0		22	1.0	ug/L		05/24/11 15:00	05/25/11 17:19	2
4-Chloroaniline	<0.98		22	0.98	ug/L		05/24/11 15:00	05/25/11 17:19	2
Hexachlorobutadiene	<2.2		22	2.2	ug/L		05/24/11 15:00	05/25/11 17:19	2
4-Chloro-3-methylphenol	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
2-Methylnaphthalene	<0.92		22	0.92	ug/L		05/24/11 15:00	05/25/11 17:19	2
Hexachlorocyclopentadiene	<11		22	11	ug/L		05/24/11 15:00	05/25/11 17:19	2
2,4,6-Trichlorophenol	<0.85		22	0.85	ug/L		05/24/11 15:00	05/25/11 17:19	2
2,4,5-Trichlorophenol	<0.85		22	0.85	ug/L		05/24/11 15:00	05/25/11 17:19	2
2-Chloronaphthalene	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
2-Nitroaniline	<0.95		22	0.95	ug/L		05/24/11 15:00	05/25/11 17:19	2
Dimethyl phthalate	<1.2		22	1.2	ug/L		05/24/11 15:00	05/25/11 17:19	2
Acenaphthylene	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
2,6-Dinitrotoluene	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
3-Nitroaniline	<3.8		22	3.8	ug/L		05/24/11 15:00	05/25/11 17:19	2
Acenaphthene	<1.2		22	1.2	ug/L		05/24/11 15:00	05/25/11 17:19	2
2,4-Dinitrophenol	<2.0		22	2.0	ug/L		05/24/11 15:00	05/25/11 17:19	2

# Client Sample Results

Client: TRC Solutions, Inc.

TestAmerica Job ID: 560-26154-1

Project/Site: Falcon

**Client Sample ID: Tank 10**

**Lab Sample ID: 560-26154-2**

Date Collected: 05/20/11 11:40

Matrix: Water

Date Received: 05/20/11 16:30

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<3.8		22	3.8	ug/L		05/24/11 15:00	05/25/11 17:19	2
Dibenzofuran	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
2,4-Dinitrotoluene	<0.82		22	0.82	ug/L		05/24/11 15:00	05/25/11 17:19	2
Diethyl phthalate	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
Fluorene	<1.3		22	1.3	ug/L		05/24/11 15:00	05/25/11 17:19	2
4-Chlorophenyl phenyl ether	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
4-Nitroaniline	<3.1		22	3.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
4,6-Dinitro-2-methylphenol	<3.9		22	3.9	ug/L		05/24/11 15:00	05/25/11 17:19	2
N-Nitrosodiphenylamine	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
4-Bromophenyl phenyl ether	<1.6		22	1.6	ug/L		05/24/11 15:00	05/25/11 17:19	2
Hexachlorobenzene	<1.4		22	1.4	ug/L		05/24/11 15:00	05/25/11 17:19	2
Phenanthenrene	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
Anthracene	<0.87		22	0.87	ug/L		05/24/11 15:00	05/25/11 17:19	2
Di-n-butyl phthalate	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
Fluoranthene	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
<b>Pyrene</b>	<b>2.9 J</b>		22	2.2	ug/L		05/24/11 15:00	05/25/11 17:19	2
Butyl benzyl phthalate	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
<b>Benzo[a]anthracene</b>	<b>1.1 J</b>		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
<b>Chrysene</b>	<b>2.0 J</b>		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
Bis(2-ethylhexyl) phthalate	<4.1		22	4.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
Di-n-octyl phthalate	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
Benzo[b]fluoranthene	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
Benzo[k]fluoranthene	<0.78		22	0.78	ug/L		05/24/11 15:00	05/25/11 17:19	2
Benzo[a]pyrene	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
Indeno[1,2,3-cd]pyrene	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
Dibenz(a,h)anthracene	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
Benzo[g,h,i]perylene	<1.1		22	1.1	ug/L		05/24/11 15:00	05/25/11 17:19	2
3,3'-Dichlorobenzidine	<2.2		22	2.2	ug/L		05/24/11 15:00	05/25/11 17:19	2
Pentachlorophenol	<11		22	11	ug/L		05/24/11 15:00	05/25/11 17:19	2
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorophenol	54		10 - 130				05/24/11 15:00	05/25/11 17:19	2
Phenol-d5	60		10 - 130				05/24/11 15:00	05/25/11 17:19	2
Nitrobenzene-d5	61		27 - 130				05/24/11 15:00	05/25/11 17:19	2
2-Fluorobiphenyl	61		23 - 130				05/24/11 15:00	05/25/11 17:19	2
2,4,6-Tribromophenol	95		18 - 130				05/24/11 15:00	05/25/11 17:19	2
Terphenyl-d14	37		10 - 141				05/24/11 15:00	05/25/11 17:19	2

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ag	<0.0010		0.0050	0.0010	mg/L		05/24/11 10:00	05/24/11 15:43	1
As	<0.0035		0.010	0.0035	mg/L		05/24/11 10:00	05/24/11 15:43	1
Ba	<b>0.18</b>		0.010	0.0020	mg/L		05/24/11 10:00	05/24/11 15:43	1
Cd	<b>0.0021 J</b>		0.0050	0.00034	mg/L		05/24/11 10:00	05/24/11 15:43	1
Cr	<b>0.0057 J</b>		0.010	0.0011	mg/L		05/24/11 10:00	05/24/11 15:43	1
Pb	<b>0.028</b>		0.010	0.0033	mg/L		05/24/11 10:00	05/24/11 15:43	1
Se	<0.0042		0.010	0.0042	mg/L		05/24/11 10:00	05/24/11 15:43	1

## Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<b>0.00016 J</b>		0.0020	0.00013	mg/L		05/25/11 14:29	05/25/11 11:00	1

TestAmerica Corpus Christi

# Client Sample Results

Client: TRC Solutions, Inc.  
Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

**Client Sample ID: Tank 30**

**Lab Sample ID: 560-26154-3**

Date Collected: 05/20/11 14:15  
Date Received: 05/20/11 16:30

Matrix: Water

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	<8.6		100	8.6	ug/L			05/26/11 18:40	20
Chloromethane	<7.8		100	7.8	ug/L			05/26/11 18:40	20
Vinyl chloride	<6.0		20	6.0	ug/L			05/26/11 18:40	20
Bromomethane	<7.8		100	7.8	ug/L			05/26/11 18:40	20
Chloroethane	<8.0		100	8.0	ug/L			05/26/11 18:40	20
Trichlorofluoromethane	<4.9		20	4.9	ug/L			05/26/11 18:40	20
Ethyl ether	<2.7		20	2.7	ug/L			05/26/11 18:40	20
1,1-Dichloroethene	<6.0		20	6.0	ug/L			05/26/11 18:40	20
Carbon disulfide	<10		100	10	ug/L			05/26/11 18:40	20
Iodomethane	<4.5		20	4.5	ug/L			05/26/11 18:40	20
Methylene Chloride	<40		100	40	ug/L			05/26/11 18:40	20
Acetone	<100		200	100	ug/L			05/26/11 18:40	20
trans-1,2-Dichloroethene	<4.0		20	4.0	ug/L			05/26/11 18:40	20
Methyl tert-butyl ether	<4.0		20	4.0	ug/L			05/26/11 18:40	20
Acetonitrile	<200		1000	200	ug/L			05/26/11 18:40	20
1,1-Dichloroethane	<3.4		20	3.4	ug/L			05/26/11 18:40	20
Vinyl acetate	<6.0		100	6.0	ug/L			05/26/11 18:40	20
cis-1,2-Dichloroethene	<2.4		20	2.4	ug/L			05/26/11 18:40	20
2,2-Dichloropropane	<6.7		20	6.7	ug/L			05/26/11 18:40	20
Chloroform	<4.0		20	4.0	ug/L			05/26/11 18:40	20
Ethyl acetate	<6.0		100	6.0	ug/L			05/26/11 18:40	20
Carbon tetrachloride	<5.0		20	5.0	ug/L			05/26/11 18:40	20
1,1,1-Trichloroethane	<6.0		20	6.0	ug/L			05/26/11 18:40	20
1,1-Dichloropropene	<3.7		20	3.7	ug/L			05/26/11 18:40	20
<b>Benzene</b>	<b>2500</b>		20	2.8	ug/L			05/26/11 18:40	20
1,2-Dichloroethane	<3.2		20	3.2	ug/L			05/26/11 18:40	20
Trichloroethene	<6.3		20	6.3	ug/L			05/26/11 18:40	20
Dibromomethane	<3.3		20	3.3	ug/L			05/26/11 18:40	20
1,2-Dichloropropane	<3.5		20	3.5	ug/L			05/26/11 18:40	20
Dichlorobromomethane	<3.5		20	3.5	ug/L			05/26/11 18:40	20
Methyl methacrylate	<3.9		100	3.9	ug/L			05/26/11 18:40	20
1,4-Dioxane	<800		2000	800	ug/L			05/26/11 18:40	20
cis-1,3-Dichloropropene	<2.9		20	2.9	ug/L			05/26/11 18:40	20
Toluene	<6.0		20	6.0	ug/L			05/26/11 18:40	20
2-Nitropropane	<20		100	20	ug/L			05/26/11 18:40	20
<b>4-Methyl-2-pentanone (MIBK)</b>	<b>7.2 J</b>		100	2.3	ug/L			05/26/11 18:40	20
trans-1,3-Dichloropropene	<4.0		20	4.0	ug/L			05/26/11 18:40	20
Tetrachloroethene	<3.8		20	3.8	ug/L			05/26/11 18:40	20
Ethyl methacrylate	<2.2		100	2.2	ug/L			05/26/11 18:40	20
1,1,2-Trichloroethane	<3.5		20	3.5	ug/L			05/26/11 18:40	20
Chlorodibromomethane	<4.5		20	4.5	ug/L			05/26/11 18:40	20
1,3-Dichloropropane	<2.9		20	2.9	ug/L			05/26/11 18:40	20
Ethylene Dibromide	<3.0		20	3.0	ug/L			05/26/11 18:40	20
2-Hexanone	<4.0		100	4.0	ug/L			05/26/11 18:40	20
Chlorobenzene	<2.7		20	2.7	ug/L			05/26/11 18:40	20
<b>Ethylbenzene</b>	<b>290</b>		20	4.0	ug/L			05/26/11 18:40	20
Bromoform	<10		100	10	ug/L			05/26/11 18:40	20
Styrene	<4.0		20	4.0	ug/L			05/26/11 18:40	20
1,1,2,2-Tetrachloroethane	<3.8		20	3.8	ug/L			05/26/11 18:40	20

# Client Sample Results

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

**Client Sample ID: Tank 30**

**Lab Sample ID: 560-26154-3**

Date Collected: 05/20/11 14:15

Matrix: Water

Date Received: 05/20/11 16:30

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	<3.8		20	3.8	ug/L			05/26/11 18:40	20
<b>1,3,5-Trimethylbenzene</b>	<b>68</b>		20	4.0	ug/L			05/26/11 18:40	20
<b>1,2,4-Trimethylbenzene</b>	<b>190</b>		20	4.0	ug/L			05/26/11 18:40	20
1,2,3-Trichlorobenzene	<4.3		100	4.3	ug/L			05/26/11 18:40	20
2-Butanone (MEK)	<9.5		100	9.5	ug/L			05/26/11 18:40	20
1,1,2-Trichloro-1,2,2-trifluoroethane	<5.6		20	5.6	ug/L			05/26/11 18:40	20
<b>Xylenes, Total</b>	<b>1400</b>		60	4.5	ug/L			05/26/11 18:40	20
<b>Surrogate</b>		<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)		92		70 - 130				05/26/11 18:40	20
1,2-Dichloroethane-d4 (Surr)		115		70 - 130				05/26/11 18:40	20
Toluene-d8 (Surr)		103		70 - 130				05/26/11 18:40	20
4-Bromofluorobenzene (Surr)		97		70 - 130				05/26/11 18:40	20

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Phenol</b>	<b>8.4</b>	<b>J</b>	53	5.3	ug/L		05/24/11 15:00	05/25/11 13:39	5
Bis(2-chloroethyl)ether	<3.7		53	3.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
2-Chlorophenol	<1.9		53	1.9	ug/L		05/24/11 15:00	05/25/11 13:39	5
1,3-Dichlorobenzene	<11		53	11	ug/L		05/24/11 15:00	05/25/11 13:39	5
1,4-Dichlorobenzene	<3.9		53	3.9	ug/L		05/24/11 15:00	05/25/11 13:39	5
Benzyl alcohol	<7.2		53	7.2	ug/L		05/24/11 15:00	05/25/11 13:39	5
1,2-Dichlorobenzene	<2.7		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
2-Methylphenol	<2.6		53	2.6	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>3 &amp; 4 Methylphenol</b>	<b>6.3</b>	<b>J</b>	110	4.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
N-Nitrosodi-n-propylamine	<3.5		53	3.5	ug/L		05/24/11 15:00	05/25/11 13:39	5
Hexachloroethane	<5.3		53	5.3	ug/L		05/24/11 15:00	05/25/11 13:39	5
Nitrobenzene	<1.8		53	1.8	ug/L		05/24/11 15:00	05/25/11 13:39	5
Isophorone	<3.3		53	3.3	ug/L		05/24/11 15:00	05/25/11 13:39	5
2-Nitrophenol	<2.2		53	2.2	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>2,4-Dimethylphenol</b>	<b>110</b>		53	3.0	ug/L		05/24/11 15:00	05/25/11 13:39	5
Bis(2-chloroethoxy)methane	<3.2		53	3.2	ug/L		05/24/11 15:00	05/25/11 13:39	5
2,4-Dichlorophenol	<2.1		53	2.1	ug/L		05/24/11 15:00	05/25/11 13:39	5
1,2,4-Trichlorobenzene	<3.1		53	3.1	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Naphthalene</b>	<b>180</b>		53	2.5	ug/L		05/24/11 15:00	05/25/11 13:39	5
4-Chloroaniline	<2.4		53	2.4	ug/L		05/24/11 15:00	05/25/11 13:39	5
Hexachlorobutadiene	<5.3		53	5.3	ug/L		05/24/11 15:00	05/25/11 13:39	5
4-Chloro-3-methylphenol	<2.6		53	2.6	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>2-Methylnaphthalene</b>	<b>200</b>		53	2.3	ug/L		05/24/11 15:00	05/25/11 13:39	5
Hexachlorocyclopentadiene	<27		53	27	ug/L		05/24/11 15:00	05/25/11 13:39	5
2,4,6-Trichlorophenol	<2.1		53	2.1	ug/L		05/24/11 15:00	05/25/11 13:39	5
2,4,5-Trichlorophenol	<2.1		53	2.1	ug/L		05/24/11 15:00	05/25/11 13:39	5
2-Chloronaphthalene	<2.6		53	2.6	ug/L		05/24/11 15:00	05/25/11 13:39	5
2-Nitroaniline	<2.4		53	2.4	ug/L		05/24/11 15:00	05/25/11 13:39	5
Dimethyl phthalate	<2.9		53	2.9	ug/L		05/24/11 15:00	05/25/11 13:39	5
Acenaphthylene	<2.7		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
2,6-Dinitrotoluene	<2.8		53	2.8	ug/L		05/24/11 15:00	05/25/11 13:39	5
3-Nitroaniline	<9.5		53	9.5	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Acenaphthene</b>	<b>10</b>	<b>J</b>	53	3.0	ug/L		05/24/11 15:00	05/25/11 13:39	5
2,4-Dinitrophenol	<4.9		53	4.9	ug/L		05/24/11 15:00	05/25/11 13:39	5

# Client Sample Results

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

**Client Sample ID: Tank 30**

**Lab Sample ID: 560-26154-3**

Date Collected: 05/20/11 14:15

Matrix: Water

Date Received: 05/20/11 16:30

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<9.4		53	9.4	ug/L		05/24/11 15:00	05/25/11 13:39	5
Dibenzofuran	<2.7		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
2,4-Dinitrotoluene	<2.0		53	2.0	ug/L		05/24/11 15:00	05/25/11 13:39	5
Diethyl phthalate	<2.8		53	2.8	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Fluorene</b>	<b>13 J</b>		53	3.2	ug/L		05/24/11 15:00	05/25/11 13:39	5
4-Chlorophenyl phenyl ether	<2.8		53	2.8	ug/L		05/24/11 15:00	05/25/11 13:39	5
4-Nitroaniline	<7.8		53	7.8	ug/L		05/24/11 15:00	05/25/11 13:39	5
4,6-Dinitro-2-methylphenol	<9.7		53	9.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
N-Nitrosodiphenylamine	<2.7		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
4-Bromophenyl phenyl ether	<4.0		53	4.0	ug/L		05/24/11 15:00	05/25/11 13:39	5
Hexachlorobenzene	<3.5		53	3.5	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Phenanthrene</b>	<b>44 J</b>		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Anthracene</b>	<b>7.5 J</b>		53	2.1	ug/L		05/24/11 15:00	05/25/11 13:39	5
Di-n-butyl phthalate	<2.7		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Fluoranthene</b>	<b>6.6 J</b>		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Pyrene</b>	<b>38 J</b>		53	5.3	ug/L		05/24/11 15:00	05/25/11 13:39	5
Butyl benzyl phthalate	<2.7		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Benzo[a]anthracene</b>	<b>14 J</b>		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Chrysene</b>	<b>25 J</b>		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Bis(2-ethylhexyl) phthalate</b>	<b>11 J</b>		53	10	ug/L		05/24/11 15:00	05/25/11 13:39	5
Di-n-octyl phthalate	<2.7		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Benzo[b]fluoranthene</b>	<b>6.2 J</b>		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
Benzo[k]fluoranthene	<1.9		53	1.9	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Benzo[a]pyrene</b>	<b>9.1 J</b>		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
Indeno[1,2,3-cd]pyrene	<2.7		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
Dibenz(a,h)anthracene	<2.7		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Benzo[g,h,i]perylene</b>	<b>3.8 J</b>		53	2.7	ug/L		05/24/11 15:00	05/25/11 13:39	5
3,3'-Dichlorobenzidine	<5.3		53	5.3	ug/L		05/24/11 15:00	05/25/11 13:39	5
Pentachlorophenol	<27		53	27	ug/L		05/24/11 15:00	05/25/11 13:39	5
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>		<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorophenol	46		10 - 130			05/24/11 15:00		05/25/11 13:39	5
Phenol-d5	50		10 - 130			05/24/11 15:00		05/25/11 13:39	5
Nitrobenzene-d5	56		27 - 130			05/24/11 15:00		05/25/11 13:39	5
2-Fluorobiphenyl	57		23 - 130			05/24/11 15:00		05/25/11 13:39	5
2,4,6-Tribromophenol	89		18 - 130			05/24/11 15:00		05/25/11 13:39	5
Terphenyl-d14	33		10 - 141			05/24/11 15:00		05/25/11 13:39	5

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ag	<0.0010		0.0050	0.0010	mg/L		05/24/11 10:00	05/24/11 15:46	1
As	<0.0035		0.010	0.0035	mg/L		05/24/11 10:00	05/24/11 15:46	1
<b>Ba</b>	<b>3.6</b>		0.010	0.0020	mg/L		05/24/11 10:00	05/24/11 15:46	1
Cd	<0.00034		0.0050	0.00034	mg/L		05/24/11 10:00	05/24/11 15:46	1
<b>Cr</b>	<b>0.0064 J</b>		0.010	0.0011	mg/L		05/24/11 10:00	05/24/11 15:46	1
<b>Pb</b>	<b>0.0081 J</b>		0.010	0.0033	mg/L		05/24/11 10:00	05/24/11 15:46	1
Se	<0.0042		0.010	0.0042	mg/L		05/24/11 10:00	05/24/11 15:46	1

## Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.0013 J</b>		0.0020	0.00013	mg/L		05/25/11 14:29	05/25/11 10:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

**Client Sample ID: Tank 7**

**Date Collected: 05/20/11 15:00**

**Date Received: 05/20/11 16:30**

**Lab Sample ID: 560-26154-4**

**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	<6.0		70	6.0	ug/L			05/26/11 19:04	14
Chloromethane	<5.5		70	5.5	ug/L			05/26/11 19:04	14
Vinyl chloride	<4.2		14	4.2	ug/L			05/26/11 19:04	14
Bromomethane	<5.5		70	5.5	ug/L			05/26/11 19:04	14
Chloroethane	<5.6		70	5.6	ug/L			05/26/11 19:04	14
Trichlorofluoromethane	<3.4		14	3.4	ug/L			05/26/11 19:04	14
Ethyl ether	<1.9		14	1.9	ug/L			05/26/11 19:04	14
1,1-Dichloroethene	<4.2		14	4.2	ug/L			05/26/11 19:04	14
Carbon disulfide	<7.0		70	7.0	ug/L			05/26/11 19:04	14
Iodomethane	<3.1		14	3.1	ug/L			05/26/11 19:04	14
Methylene Chloride	<28		70	28	ug/L			05/26/11 19:04	14
Acetone	<70		140	70	ug/L			05/26/11 19:04	14
trans-1,2-Dichloroethene	<2.8		14	2.8	ug/L			05/26/11 19:04	14
<b>Methyl tert-butyl ether</b>	<b>1500</b>		14	2.8	ug/L			05/26/11 19:04	14
Acetonitrile	<140		700	140	ug/L			05/26/11 19:04	14
1,1-Dichloroethane	<2.4		14	2.4	ug/L			05/26/11 19:04	14
Vinyl acetate	<4.2		70	4.2	ug/L			05/26/11 19:04	14
cis-1,2-Dichloroethene	<1.7		14	1.7	ug/L			05/26/11 19:04	14
2,2-Dichloropropane	<4.7		14	4.7	ug/L			05/26/11 19:04	14
Chloroform	<2.8		14	2.8	ug/L			05/26/11 19:04	14
Ethyl acetate	<4.2		70	4.2	ug/L			05/26/11 19:04	14
Carbon tetrachloride	<3.5		14	3.5	ug/L			05/26/11 19:04	14
1,1,1-Trichloroethane	<4.2		14	4.2	ug/L			05/26/11 19:04	14
1,1-Dichloropropene	<2.6		14	2.6	ug/L			05/26/11 19:04	14
<b>Benzene</b>	<b>240</b>		14	2.0	ug/L			05/26/11 19:04	14
1,2-Dichloroethane	<2.2		14	2.2	ug/L			05/26/11 19:04	14
Trichloroethene	<4.4		14	4.4	ug/L			05/26/11 19:04	14
Dibromomethane	<2.3		14	2.3	ug/L			05/26/11 19:04	14
1,2-Dichloropropane	<2.4		14	2.4	ug/L			05/26/11 19:04	14
Dichlorobromomethane	<2.4		14	2.4	ug/L			05/26/11 19:04	14
Methyl methacrylate	<2.7		70	2.7	ug/L			05/26/11 19:04	14
1,4-Dioxane	<560		1400	560	ug/L			05/26/11 19:04	14
cis-1,3-Dichloropropene	<2.0		14	2.0	ug/L			05/26/11 19:04	14
<b>Toluene</b>	<b>510</b>		14	4.2	ug/L			05/26/11 19:04	14
2-Nitropropane	<14		70	14	ug/L			05/26/11 19:04	14
<b>4-Methyl-2-pentanone (MIBK)</b>	<b>3.1 J</b>		70	1.6	ug/L			05/26/11 19:04	14
trans-1,3-Dichloropropene	<2.8		14	2.8	ug/L			05/26/11 19:04	14
Tetrachloroethene	<2.6		14	2.6	ug/L			05/26/11 19:04	14
Ethyl methacrylate	<1.5		70	1.5	ug/L			05/26/11 19:04	14
1,1,2-Trichloroethane	<2.4		14	2.4	ug/L			05/26/11 19:04	14
Chlorodibromomethane	<3.1		14	3.1	ug/L			05/26/11 19:04	14
1,3-Dichloropropane	<2.0		14	2.0	ug/L			05/26/11 19:04	14
Ethylene Dibromide	<2.1		14	2.1	ug/L			05/26/11 19:04	14
2-Hexanone	<2.8		70	2.8	ug/L			05/26/11 19:04	14
Chlorobenzene	<1.9		14	1.9	ug/L			05/26/11 19:04	14
<b>Ethylbenzene</b>	<b>170</b>		14	2.8	ug/L			05/26/11 19:04	14
Bromoform	<7.0		70	7.0	ug/L			05/26/11 19:04	14
Styrene	<2.8		14	2.8	ug/L			05/26/11 19:04	14
1,1,2,2-Tetrachloroethane	<2.7		14	2.7	ug/L			05/26/11 19:04	14

# Client Sample Results

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

## Client Sample ID: Tank 7

Date Collected: 05/20/11 15:00

Date Received: 05/20/11 16:30

## Lab Sample ID: 560-26154-4

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	<2.7		14	2.7	ug/L			05/26/11 19:04	14
<b>1,3,5-Trimethylbenzene</b>	<b>21</b>		14	2.8	ug/L			05/26/11 19:04	14
<b>1,2,4-Trimethylbenzene</b>	<b>81</b>		14	2.8	ug/L			05/26/11 19:04	14
1,2,3-Trichlorobenzene	<3.0		70	3.0	ug/L			05/26/11 19:04	14
2-Butanone (MEK)	<6.6		70	6.6	ug/L			05/26/11 19:04	14
1,1,2-Trichloro-1,2,2-trifluoroethane	<3.9		14	3.9	ug/L			05/26/11 19:04	14
<b>Xylenes, Total</b>	<b>530</b>		42	3.2	ug/L			05/26/11 19:04	14
<b>Surrogate</b>		<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)		93		70 - 130				05/26/11 19:04	14
1,2-Dichloroethane-d4 (Surr)		115		70 - 130				05/26/11 19:04	14
Toluene-d8 (Surr)		104		70 - 130				05/26/11 19:04	14
4-Bromofluorobenzene (Surr)		96		70 - 130				05/26/11 19:04	14

### Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Phenol</b>	<b>9.8</b>	<b>J</b>	55	5.5	ug/L		05/24/11 15:00	05/25/11 14:03	5
Bis(2-chloroethyl)ether	<3.9		55	3.9	ug/L		05/24/11 15:00	05/25/11 14:03	5
2-Chlorophenol	<2.0		55	2.0	ug/L		05/24/11 15:00	05/25/11 14:03	5
1,3-Dichlorobenzene	<11		55	11	ug/L		05/24/11 15:00	05/25/11 14:03	5
1,4-Dichlorobenzene	<4.1		55	4.1	ug/L		05/24/11 15:00	05/25/11 14:03	5
Benzyl alcohol	<7.5		55	7.5	ug/L		05/24/11 15:00	05/25/11 14:03	5
1,2-Dichlorobenzene	<2.8		55	2.8	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>2-Methylphenol</b>	<b>33</b>	<b>J</b>	55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
3 & 4 Methylphenol	<4.8		110	4.8	ug/L		05/24/11 15:00	05/25/11 14:03	5
N-Nitrosodi-n-propylamine	<3.6		55	3.6	ug/L		05/24/11 15:00	05/25/11 14:03	5
Hexachloroethane	<5.5		55	5.5	ug/L		05/24/11 15:00	05/25/11 14:03	5
Nitrobenzene	<1.8		55	1.8	ug/L		05/24/11 15:00	05/25/11 14:03	5
Isophorone	<3.4		55	3.4	ug/L		05/24/11 15:00	05/25/11 14:03	5
2-Nitrophenol	<2.2		55	2.2	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>2,4-Dimethylphenol</b>	<b>66</b>		55	3.1	ug/L		05/24/11 15:00	05/25/11 14:03	5
Bis(2-chloroethoxy)methane	<3.3		55	3.3	ug/L		05/24/11 15:00	05/25/11 14:03	5
2,4-Dichlorophenol	<2.1		55	2.1	ug/L		05/24/11 15:00	05/25/11 14:03	5
1,2,4-Trichlorobenzene	<3.2		55	3.2	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>Naphthalene</b>	<b>370</b>		55	2.6	ug/L		05/24/11 15:00	05/25/11 14:03	5
4-Chloroaniline	<2.5		55	2.5	ug/L		05/24/11 15:00	05/25/11 14:03	5
Hexachlorobutadiene	<5.5		55	5.5	ug/L		05/24/11 15:00	05/25/11 14:03	5
4-Chloro-3-methylphenol	<2.7		55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>2-Methylnaphthalene</b>	<b>220</b>		55	2.4	ug/L		05/24/11 15:00	05/25/11 14:03	5
Hexachlorocyclopentadiene	<27		55	27	ug/L		05/24/11 15:00	05/25/11 14:03	5
2,4,6-Trichlorophenol	<2.2		55	2.2	ug/L		05/24/11 15:00	05/25/11 14:03	5
2,4,5-Trichlorophenol	<2.2		55	2.2	ug/L		05/24/11 15:00	05/25/11 14:03	5
2-Chloronaphthalene	<2.7		55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
2-Nitroaniline	<2.4		55	2.4	ug/L		05/24/11 15:00	05/25/11 14:03	5
Dimethyl phthalate	<3.0		55	3.0	ug/L		05/24/11 15:00	05/25/11 14:03	5
Acenaphthylene	<2.7		55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
2,6-Dinitrotoluene	<2.9		55	2.9	ug/L		05/24/11 15:00	05/25/11 14:03	5
3-Nitroaniline	<9.8		55	9.8	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>Acenaphthene</b>	<b>14</b>	<b>J</b>	55	3.1	ug/L		05/24/11 15:00	05/25/11 14:03	5
2,4-Dinitrophenol	<5.1		55	5.1	ug/L		05/24/11 15:00	05/25/11 14:03	5

# Client Sample Results

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

**Client Sample ID: Tank 7**

**Lab Sample ID: 560-26154-4**

Date Collected: 05/20/11 15:00

Matrix: Water

Date Received: 05/20/11 16:30

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<9.7		55	9.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
Dibenzofuran	<2.8		55	2.8	ug/L		05/24/11 15:00	05/25/11 14:03	5
2,4-Dinitrotoluene	<2.1		55	2.1	ug/L		05/24/11 15:00	05/25/11 14:03	5
Diethyl phthalate	<2.9		55	2.9	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>Fluorene</b>	<b>30</b>	<b>J</b>	55	3.3	ug/L		05/24/11 15:00	05/25/11 14:03	5
4-Chlorophenyl phenyl ether	<2.9		55	2.9	ug/L		05/24/11 15:00	05/25/11 14:03	5
4-Nitroaniline	<8.0		55	8.0	ug/L		05/24/11 15:00	05/25/11 14:03	5
4,6-Dinitro-2-methylphenol	<10		55	10	ug/L		05/24/11 15:00	05/25/11 14:03	5
N-Nitrosodiphenylamine	<2.8		55	2.8	ug/L		05/24/11 15:00	05/25/11 14:03	5
4-Bromophenyl phenyl ether	<4.1		55	4.1	ug/L		05/24/11 15:00	05/25/11 14:03	5
Hexachlorobenzene	<3.6		55	3.6	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>Phenanthrene</b>	<b>170</b>		55	2.8	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>Anthracene</b>	<b>8.7</b>	<b>J</b>	55	2.2	ug/L		05/24/11 15:00	05/25/11 14:03	5
Di-n-butyl phthalate	<2.7		55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>Fluoranthene</b>	<b>5.8</b>	<b>J</b>	55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>Pyrene</b>	<b>19</b>	<b>J</b>	55	5.5	ug/L		05/24/11 15:00	05/25/11 14:03	5
Butyl benzyl phthalate	<2.7		55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>Benzo[a]anthracene</b>	<b>7.1</b>	<b>J</b>	55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>Chrysene</b>	<b>16</b>	<b>J</b>	55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>Bis(2-ethylhexyl) phthalate</b>	<b>89</b>		55	10	ug/L		05/24/11 15:00	05/25/11 14:03	5
Di-n-octyl phthalate	<2.7		55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>Benzo[b]fluoranthene</b>	<b>3.5</b>	<b>J</b>	55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
Benzo[k]fluoranthene	<2.0		55	2.0	ug/L		05/24/11 15:00	05/25/11 14:03	5
Benzo[a]pyrene	<2.7		55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
Indeno[1,2,3-cd]pyrene	<2.7		55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
Dibenz(a,h)anthracene	<2.7		55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
Benzo[g,h,i]perylene	<2.7		55	2.7	ug/L		05/24/11 15:00	05/25/11 14:03	5
3,3'-Dichlorobenzidine	<5.5		55	5.5	ug/L		05/24/11 15:00	05/25/11 14:03	5
Pentachlorophenol	<27		55	27	ug/L		05/24/11 15:00	05/25/11 14:03	5
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>		<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorophenol	41		10 - 130			05/24/11 15:00		05/25/11 14:03	5
Phenol-d5	50		10 - 130			05/24/11 15:00		05/25/11 14:03	5
Nitrobenzene-d5	52		27 - 130			05/24/11 15:00		05/25/11 14:03	5
2-Fluorobiphenyl	39		23 - 130			05/24/11 15:00		05/25/11 14:03	5
2,4,6-Tribromophenol	73		18 - 130			05/24/11 15:00		05/25/11 14:03	5
Terphenyl-d14	36		10 - 141			05/24/11 15:00		05/25/11 14:03	5

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ag	<0.0010		0.0050	0.0010	mg/L		05/24/11 10:00	05/24/11 15:48	1
<b>As</b>	<b>0.0095</b>	<b>J</b>	0.010	0.0035	mg/L		05/24/11 10:00	05/24/11 15:48	1
<b>Ba</b>	<b>0.88</b>		0.010	0.0020	mg/L		05/24/11 10:00	05/24/11 15:48	1
<b>Cd</b>	<b>0.00052</b>	<b>J</b>	0.0050	0.00034	mg/L		05/24/11 10:00	05/24/11 15:48	1
<b>Cr</b>	<b>0.016</b>		0.010	0.0011	mg/L		05/24/11 10:00	05/24/11 15:48	1
<b>Pb</b>	<b>0.12</b>		0.010	0.0033	mg/L		05/24/11 10:00	05/24/11 15:48	1
Se	<0.0042		0.010	0.0042	mg/L		05/24/11 10:00	05/24/11 15:48	1

## Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.00031</b>	<b>J</b>	0.0020	0.00013	mg/L		05/25/11 14:29	05/25/11 11:02	1

TestAmerica Corpus Christi

# QC Sample Results

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 560-60046/5**

**Matrix: Water**

**Analysis Batch: 60046**

**Client Sample ID: MB 560-60046/5**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	<0.43		5.0	0.43	ug/L			05/26/11 11:16	1
Chloromethane	<0.39		5.0	0.39	ug/L			05/26/11 11:16	1
Vinyl chloride	<0.30		1.0	0.30	ug/L			05/26/11 11:16	1
Bromomethane	<0.39		5.0	0.39	ug/L			05/26/11 11:16	1
Chloroethane	<0.40		5.0	0.40	ug/L			05/26/11 11:16	1
Trichlorofluoromethane	<0.24		1.0	0.24	ug/L			05/26/11 11:16	1
Ethyl ether	<0.14		1.0	0.14	ug/L			05/26/11 11:16	1
1,1-Dichloroethene	<0.30		1.0	0.30	ug/L			05/26/11 11:16	1
Carbon disulfide	<0.50		5.0	0.50	ug/L			05/26/11 11:16	1
Iodomethane	<0.22		1.0	0.22	ug/L			05/26/11 11:16	1
Methylene Chloride	<2.0		5.0	2.0	ug/L			05/26/11 11:16	1
Acetone	<5.0		10	5.0	ug/L			05/26/11 11:16	1
trans-1,2-Dichloroethene	<0.20		1.0	0.20	ug/L			05/26/11 11:16	1
Methyl tert-butyl ether	<0.20		1.0	0.20	ug/L			05/26/11 11:16	1
Acetonitrile	<10		50	10	ug/L			05/26/11 11:16	1
1,1-Dichloroethane	<0.17		1.0	0.17	ug/L			05/26/11 11:16	1
Vinyl acetate	<0.30		5.0	0.30	ug/L			05/26/11 11:16	1
cis-1,2-Dichloroethene	<0.12		1.0	0.12	ug/L			05/26/11 11:16	1
2,2-Dichloropropane	<0.34		1.0	0.34	ug/L			05/26/11 11:16	1
Chloroform	<0.20		1.0	0.20	ug/L			05/26/11 11:16	1
Ethyl acetate	<0.30		5.0	0.30	ug/L			05/26/11 11:16	1
Carbon tetrachloride	<0.25		1.0	0.25	ug/L			05/26/11 11:16	1
1,1,1-Trichloroethane	<0.30		1.0	0.30	ug/L			05/26/11 11:16	1
1,1-Dichloropropene	<0.18		1.0	0.18	ug/L			05/26/11 11:16	1
Benzene	<0.14		1.0	0.14	ug/L			05/26/11 11:16	1
1,2-Dichloroethane	<0.16		1.0	0.16	ug/L			05/26/11 11:16	1
Trichloroethene	<0.32		1.0	0.32	ug/L			05/26/11 11:16	1
Dibromomethane	<0.16		1.0	0.16	ug/L			05/26/11 11:16	1
1,2-Dichloropropane	<0.17		1.0	0.17	ug/L			05/26/11 11:16	1
Dichlorobromomethane	<0.18		1.0	0.18	ug/L			05/26/11 11:16	1
Methyl methacrylate	<0.20		5.0	0.20	ug/L			05/26/11 11:16	1
1,4-Dioxane	<40		100	40	ug/L			05/26/11 11:16	1
cis-1,3-Dichloropropene	<0.15		1.0	0.15	ug/L			05/26/11 11:16	1
Toluene	<0.30		1.0	0.30	ug/L			05/26/11 11:16	1
2-Nitropropane	<1.0		5.0	1.0	ug/L			05/26/11 11:16	1
4-Methyl-2-pentanone (MIBK)	<0.12		5.0	0.12	ug/L			05/26/11 11:16	1
trans-1,3-Dichloropropene	<0.20		1.0	0.20	ug/L			05/26/11 11:16	1
Tetrachloroethene	<0.19		1.0	0.19	ug/L			05/26/11 11:16	1
Ethyl methacrylate	<0.11		5.0	0.11	ug/L			05/26/11 11:16	1
1,1,2-Trichloroethane	<0.17		1.0	0.17	ug/L			05/26/11 11:16	1
Chlorodibromomethane	<0.22		1.0	0.22	ug/L			05/26/11 11:16	1
1,3-Dichloropropane	<0.15		1.0	0.15	ug/L			05/26/11 11:16	1
Ethylene Dibromide	<0.15		1.0	0.15	ug/L			05/26/11 11:16	1
2-Hexanone	<0.20		5.0	0.20	ug/L			05/26/11 11:16	1
Chlorobenzene	<0.14		1.0	0.14	ug/L			05/26/11 11:16	1
Ethylbenzene	<0.20		1.0	0.20	ug/L			05/26/11 11:16	1
Bromoform	<0.50		5.0	0.50	ug/L			05/26/11 11:16	1
Styrene	<0.20		1.0	0.20	ug/L			05/26/11 11:16	1
1,1,2,2-Tetrachloroethane	<0.19		1.0	0.19	ug/L			05/26/11 11:16	1

# QC Sample Results

Client: TRC Solutions, Inc.  
Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 560-60046/5**

**Matrix: Water**

**Analysis Batch: 60046**

**Client Sample ID: MB 560-60046/5**

**Prep Type: Total/NA**

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
1,2,3-Trichloropropane	<0.19				1.0	0.19	ug/L			05/26/11 11:16	1
1,3,5-Trimethylbenzene	<0.20				1.0	0.20	ug/L			05/26/11 11:16	1
1,2,4-Trimethylbenzene	<0.20				1.0	0.20	ug/L			05/26/11 11:16	1
1,2,3-Trichlorobenzene	<0.22				5.0	0.22	ug/L			05/26/11 11:16	1
2-Butanone (MEK)	<0.47				5.0	0.47	ug/L			05/26/11 11:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.28				1.0	0.28	ug/L			05/26/11 11:16	1
Xylenes, Total	<0.23				3.0	0.23	ug/L			05/26/11 11:16	1
Surrogate	MB	MB	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
	% Recovery	Qualifier									
Dibromofluoromethane (Surr)	92		70 - 130							05/26/11 11:16	1
1,2-Dichloroethane-d4 (Surr)	118		70 - 130							05/26/11 11:16	1
Toluene-d8 (Surr)	103		70 - 130							05/26/11 11:16	1
4-Bromofluorobenzene (Surr)	94		70 - 130							05/26/11 11:16	1

**Lab Sample ID: LCS 560-60046/10**

**Matrix: Water**

**Analysis Batch: 60046**

**Client Sample ID: LCS 560-60046/10**

**Prep Type: Total/NA**

Analyte	Spike	LCS	LCS	Added	Result	Qualifier	Unit	D	% Rec	Limits	% Rec.
	Added	Result	Qualifier								
Dichlorodifluoromethane		25.0	25.6				ug/L		102	23 - 167	
Chloromethane		25.0	20.3				ug/L		81	54 - 156	
Vinyl chloride		25.0	16.1				ug/L		64	59 - 139	
Bromomethane		25.0	15.5				ug/L		62	57 - 132	
Chloroethane		25.0	19.1				ug/L		76	65 - 133	
Trichlorofluoromethane		25.0	21.8				ug/L		87	60 - 133	
Ethyl ether		25.0	23.9				ug/L		96	70 - 130	
1,1-Dichloroethene		25.0	25.7				ug/L		103	67 - 130	
Carbon disulfide		25.0	28.1				ug/L		112	70 - 152	
Iodomethane		25.0	23.5				ug/L		94	70 - 142	
Methylene Chloride		25.0	24.0				ug/L		96	70 - 130	
Acetone		25.0	27.7				ug/L		111	34 - 175	
trans-1,2-Dichloroethene		25.0	25.4				ug/L		102	70 - 130	
Methyl tert-butyl ether		25.0	24.3				ug/L		97	69 - 130	
Acetonitrile		250	222				ug/L		89	10 - 200	
1,1-Dichloroethane		25.0	25.3				ug/L		101	70 - 130	
Vinyl acetate		25.0	39.4				ug/L		158	70 - 159	
cis-1,2-Dichloroethene		25.0	24.9				ug/L		100	70 - 130	
2,2-Dichloropropane		25.0	18.9				ug/L		76	63 - 141	
Chloroform		25.0	24.4				ug/L		98	70 - 130	
Ethyl acetate		25.0	33.7				ug/L		135	64 - 139	
Carbon tetrachloride		25.0	22.2				ug/L		89	69 - 130	
1,1,1-Trichloroethane		25.0	23.8				ug/L		95	70 - 130	
1,1-Dichloropropene		25.0	24.7				ug/L		99	70 - 130	
Benzene		25.0	25.2				ug/L		101	70 - 130	
1,2-Dichloroethane		25.0	28.4				ug/L		114	68 - 130	
Trichloroethene		25.0	22.5				ug/L		90	70 - 130	
Dibromomethane		25.0	24.0				ug/L		96	70 - 130	
1,2-Dichloropropane		25.0	27.3				ug/L		109	70 - 130	
Dichlorobromomethane		25.0	23.7				ug/L		95	70 - 130	

# QC Sample Results

Client: TRC Solutions, Inc.

TestAmerica Job ID: 560-26154-1

Project/Site: Falcon

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 560-60046/10**

**Matrix: Water**

**Analysis Batch: 60046**

**Client Sample ID: LCS 560-60046/10**

**Prep Type: Total/NA**

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.
	Added	Result	Qualifier				Limits
Methyl methacrylate	25.0	27.1		ug/L		108	63 - 130
1,4-Dioxane	500	254		ug/L		51	34 - 174
cis-1,3-Dichloropropene	25.0	25.4		ug/L		102	65 - 132
Toluene	25.0	25.3		ug/L		101	70 - 130
2-Nitropropane	25.0	28.9		ug/L		116	24 - 150
4-Methyl-2-pentanone (MIBK)	25.0	32.1		ug/L		128	62 - 130
trans-1,3-Dichloropropene	25.0	25.5		ug/L		102	56 - 130
Tetrachloroethene	25.0	23.2		ug/L		93	60 - 130
Ethyl methacrylate	25.0	28.3		ug/L		113	66 - 130
1,1,2-Trichloroethane	25.0	25.1		ug/L		100	70 - 130
Chlorodibromomethane	25.0	18.6		ug/L		74	64 - 130
1,3-Dichloropropane	25.0	25.3		ug/L		101	70 - 130
Ethylene Dibromide	25.0	22.9		ug/L		92	70 - 130
2-Hexanone	25.0	33.0		ug/L		132	58 - 136
Chlorobenzene	25.0	21.8		ug/L		87	70 - 130
Ethylbenzene	25.0	22.0		ug/L		88	70 - 130
Bromoform	25.0	15.7		ug/L		63	53 - 130
Styrene	25.0	20.1		ug/L		80	64 - 130
1,1,2,2-Tetrachloroethane	25.0	28.3		ug/L		113	70 - 130
1,2,3-Trichloropropane	25.0	28.4		ug/L		114	68 - 132
1,3,5-Trimethylbenzene	25.0	23.9		ug/L		96	69 - 130
1,2,4-Trimethylbenzene	25.0	23.5		ug/L		94	70 - 130
1,2,3-Trichlorobenzene	25.0	21.5		ug/L		86	59 - 130
2-Butanone (MEK)	25.0	33.2		ug/L		133	50 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.1		ug/L		100	51 - 130
Xylenes, Total	75.0	66.3		ug/L		88	70 - 130

Surrogate	LCS	LCS	Limits
	% Recovery	Qualifier	
Dibromofluoromethane (Surr)	95		70 - 130
1,2-Dichloroethane-d4 (Surr)	115		70 - 130
Toluene-d8 (Surr)	107		70 - 130
4-Bromofluorobenzene (Surr)	94		70 - 130

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 560-59985/1-A**

**Matrix: Water**

**Analysis Batch: 60003**

**Client Sample ID: MB 560-59985/1-A**

**Prep Type: Total/NA**

**Prep Batch: 59985**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Phenol	<1.0		10	1.0	ug/L		05/24/11 15:00	05/25/11 11:26	1
Bis(2-chloroethyl)ether	<0.70		10	0.70	ug/L		05/24/11 15:00	05/25/11 11:26	1
2-Chlorophenol	<0.36		10	0.36	ug/L		05/24/11 15:00	05/25/11 11:26	1
1,3-Dichlorobenzene	<2.0		10	2.0	ug/L		05/24/11 15:00	05/25/11 11:26	1
1,4-Dichlorobenzene	<0.74		10	0.74	ug/L		05/24/11 15:00	05/25/11 11:26	1
Benzyl alcohol	<1.4		10	1.4	ug/L		05/24/11 15:00	05/25/11 11:26	1
1,2-Dichlorobenzene	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
2-Methylphenol	<0.49		10	0.49	ug/L		05/24/11 15:00	05/25/11 11:26	1
3 & 4 Methylphenol	<0.88		20	0.88	ug/L		05/24/11 15:00	05/25/11 11:26	1

TestAmerica Corpus Christi

# QC Sample Results

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 560-59985/1-A**

**Matrix: Water**

**Analysis Batch: 60003**

**Client Sample ID: MB 560-59985/1-A**

**Prep Type: Total/NA**

**Prep Batch: 59985**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	<0.65		10	0.65	ug/L		05/24/11 15:00	05/25/11 11:26	1
Hexachloroethane	<1.0		10	1.0	ug/L		05/24/11 15:00	05/25/11 11:26	1
Nitrobenzene	<0.34		10	0.34	ug/L		05/24/11 15:00	05/25/11 11:26	1
Isophorone	<0.63		10	0.63	ug/L		05/24/11 15:00	05/25/11 11:26	1
2-Nitrophenol	<0.41		10	0.41	ug/L		05/24/11 15:00	05/25/11 11:26	1
2,4-Dimethylphenol	<0.56		10	0.56	ug/L		05/24/11 15:00	05/25/11 11:26	1
Bis(2-chloroethoxy)methane	<0.59		10	0.59	ug/L		05/24/11 15:00	05/25/11 11:26	1
2,4-Dichlorophenol	<0.39		10	0.39	ug/L		05/24/11 15:00	05/25/11 11:26	1
1,2,4-Trichlorobenzene	<0.58		10	0.58	ug/L		05/24/11 15:00	05/25/11 11:26	1
Naphthalene	<0.48		10	0.48	ug/L		05/24/11 15:00	05/25/11 11:26	1
4-Chloroaniline	<0.46		10	0.46	ug/L		05/24/11 15:00	05/25/11 11:26	1
Hexachlorobutadiene	<1.0		10	1.0	ug/L		05/24/11 15:00	05/25/11 11:26	1
4-Chloro-3-methylphenol	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
2-Methylnaphthalene	<0.43		10	0.43	ug/L		05/24/11 15:00	05/25/11 11:26	1
Hexachlorocyclopentadiene	<5.0		10	5.0	ug/L		05/24/11 15:00	05/25/11 11:26	1
2,4,6-Trichlorophenol	<0.39		10	0.39	ug/L		05/24/11 15:00	05/25/11 11:26	1
2,4,5-Trichlorophenol	<0.40		10	0.40	ug/L		05/24/11 15:00	05/25/11 11:26	1
2-Chloronaphthalene	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
2-Nitroaniline	<0.44		10	0.44	ug/L		05/24/11 15:00	05/25/11 11:26	1
Dimethyl phthalate	<0.55		10	0.55	ug/L		05/24/11 15:00	05/25/11 11:26	1
Acenaphthylene	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
2,6-Dinitrotoluene	<0.52		10	0.52	ug/L		05/24/11 15:00	05/25/11 11:26	1
3-Nitroaniline	<1.8		10	1.8	ug/L		05/24/11 15:00	05/25/11 11:26	1
Acenaphthene	<0.57		10	0.57	ug/L		05/24/11 15:00	05/25/11 11:26	1
2,4-Dinitrophenol	<0.93		10	0.93	ug/L		05/24/11 15:00	05/25/11 11:26	1
4-Nitrophenol	<1.8		10	1.8	ug/L		05/24/11 15:00	05/25/11 11:26	1
Dibenzofuran	<0.51		10	0.51	ug/L		05/24/11 15:00	05/25/11 11:26	1
2,4-Dinitrotoluene	<0.38		10	0.38	ug/L		05/24/11 15:00	05/25/11 11:26	1
Diethyl phthalate	<0.52		10	0.52	ug/L		05/24/11 15:00	05/25/11 11:26	1
Fluorene	<0.61		10	0.61	ug/L		05/24/11 15:00	05/25/11 11:26	1
4-Chlorophenyl phenyl ether	<0.52		10	0.52	ug/L		05/24/11 15:00	05/25/11 11:26	1
4-Nitroaniline	<1.5		10	1.5	ug/L		05/24/11 15:00	05/25/11 11:26	1
4,6-Dinitro-2-methylphenol	<1.8		10	1.8	ug/L		05/24/11 15:00	05/25/11 11:26	1
N-Nitrosodiphenylamine	<0.51		10	0.51	ug/L		05/24/11 15:00	05/25/11 11:26	1
4-Bromophenyl phenyl ether	<0.74		10	0.74	ug/L		05/24/11 15:00	05/25/11 11:26	1
Hexachlorobenzene	<0.65		10	0.65	ug/L		05/24/11 15:00	05/25/11 11:26	1
Phenanthrene	<0.51		10	0.51	ug/L		05/24/11 15:00	05/25/11 11:26	1
Anthracene	<0.40		10	0.40	ug/L		05/24/11 15:00	05/25/11 11:26	1
Di-n-butyl phthalate	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
Fluoranthene	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
Pyrene	<1.0		10	1.0	ug/L		05/24/11 15:00	05/25/11 11:26	1
Butyl benzyl phthalate	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
Benzo[a]anthracene	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
Chrysene	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
Bis(2-ethylhexyl) phthalate	<1.9		10	1.9	ug/L		05/24/11 15:00	05/25/11 11:26	1
Di-n-octyl phthalate	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
Benzo[b]fluoranthene	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
Benzo[k]fluoranthene	<0.36		10	0.36	ug/L		05/24/11 15:00	05/25/11 11:26	1
Benzo[a]pyrene	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
Indeno[1,2,3-cd]pyrene	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1

TestAmerica Corpus Christi

# QC Sample Results

Client: TRC Solutions, Inc.  
Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 560-59985/1-A**

**Matrix: Water**

**Analysis Batch: 60003**

**Client Sample ID: MB 560-59985/1-A**

**Prep Type: Total/NA**

**Prep Batch: 59985**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dibenz(a,h)anthracene	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
Benzo[g,h,i]perylene	<0.50		10	0.50	ug/L		05/24/11 15:00	05/25/11 11:26	1
3,3'-Dichlorobenzidine	<1.0		10	1.0	ug/L		05/24/11 15:00	05/25/11 11:26	1
Pentachlorophenol	<5.0		10	5.0	ug/L		05/24/11 15:00	05/25/11 11:26	1

**MB MB**

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
2-Fluorophenol	64		10 - 130	05/24/11 15:00	05/25/11 11:26	1
Phenol-d5	69		10 - 130	05/24/11 15:00	05/25/11 11:26	1
Nitrobenzene-d5	68		27 - 130	05/24/11 15:00	05/25/11 11:26	1
2-Fluorobiphenyl	69		23 - 130	05/24/11 15:00	05/25/11 11:26	1
2,4,6-Tribromophenol	90		18 - 130	05/24/11 15:00	05/25/11 11:26	1
Terphenyl-d14	88		10 - 141	05/24/11 15:00	05/25/11 11:26	1

**Lab Sample ID: LCS 560-59985/2-A**

**Matrix: Water**

**Analysis Batch: 60003**

**Client Sample ID: LCS 560-59985/2-A**

**Prep Type: Total/NA**

**Prep Batch: 59985**

Analyte	Spike		Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
	Added							Limits	
Phenol	100		76.0		ug/L		76	24 - 130	
Bis(2-chloroethyl)ether	100		81.7		ug/L		82	44 - 130	
2-Chlorophenol	100		78.9		ug/L		79	38 - 130	
1,3-Dichlorobenzene	100		69.1		ug/L		69	25 - 130	
1,4-Dichlorobenzene	100		71.0		ug/L		71	26 - 130	
Benzyl alcohol	100		85.5		ug/L		86	44 - 130	
1,2-Dichlorobenzene	100		69.8		ug/L		70	28 - 130	
2-Methylphenol	100		78.3		ug/L		78	34 - 130	
3 & 4 Methylphenol	200		160		ug/L		80	29 - 130	
N-Nitrosodi-n-propylamine	100		82.3		ug/L		82	36 - 130	
Hexachloroethane	100		66.9		ug/L		67	20 - 130	
Nitrobenzene	100		80.2		ug/L		80	44 - 130	
Isophorone	100		80.8		ug/L		81	44 - 130	
2-Nitrophenol	100		80.8		ug/L		81	42 - 130	
2,4-Dimethylphenol	100		89.0		ug/L		89	41 - 135	
Bis(2-chloroethoxy)methane	100		83.1		ug/L		83	44 - 130	
2,4-Dichlorophenol	100		80.2		ug/L		80	40 - 130	
1,2,4-Trichlorobenzene	100		73.6		ug/L		74	35 - 130	
Naphthalene	100		77.8		ug/L		78	40 - 130	
4-Chloroaniline	100		53.3		ug/L		53	21 - 130	
Hexachlorobutadiene	100		70.8		ug/L		71	29 - 130	
4-Chloro-3-methylphenol	100		83.3		ug/L		83	55 - 130	
2-Methylnaphthalene	100		80.0		ug/L		80	44 - 130	
Hexachlorocyclopentadiene	100		54.8		ug/L		55	10 - 130	
2,4,6-Trichlorophenol	100		87.3		ug/L		87	50 - 130	
2,4,5-Trichlorophenol	100		89.1		ug/L		89	59 - 130	
2-Chloronaphthalene	100		82.1		ug/L		82	44 - 130	
2-Nitroaniline	100		83.2		ug/L		83	58 - 130	
Dimethyl phthalate	100		84.4		ug/L		84	70 - 130	
Acenaphthylene	100		85.6		ug/L		86	52 - 130	
2,6-Dinitrotoluene	100		88.0		ug/L		88	70 - 130	

# QC Sample Results

Client: TRC Solutions, Inc.

TestAmerica Job ID: 560-26154-1

Project/Site: Falcon

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 560-59985/2-A**

**Matrix: Water**

**Analysis Batch: 60003**

**Client Sample ID: LCS 560-59985/2-A**

**Prep Type: Total/NA**

**Prep Batch: 59985**

Analyte	Spike	LCS	LCS	Unit	D	% Rec	Limits
	Added	Result	Qualifier				
3-Nitroaniline	100	83.9		ug/L	84	70 - 130	
Acenaphthene	100	84.5		ug/L	84	55 - 130	
2,4-Dinitrophenol	100	79.9		ug/L	80	38 - 132	
4-Nitrophenol	100	76.4		ug/L	76	38 - 132	
Dibenzofuran	100	80.6		ug/L	81	54 - 130	
2,4-Dinitrotoluene	100	85.9		ug/L	86	70 - 130	
Diethyl phthalate	100	88.6		ug/L	89	70 - 130	
Fluorene	100	87.9		ug/L	88	69 - 130	
4-Chlorophenyl phenyl ether	100	83.5		ug/L	84	61 - 130	
4-Nitroaniline	100	84.8		ug/L	85	70 - 130	
4,6-Dinitro-2-methylphenol	100	87.0		ug/L	87	67 - 130	
N-Nitrosodiphenylamine	100	79.8		ug/L	80	70 - 130	
4-Bromophenyl phenyl ether	100	84.6		ug/L	85	68 - 130	
Hexachlorobenzene	100	85.4		ug/L	85	67 - 130	
Phenanthrone	100	85.2		ug/L	85	70 - 130	
Anthracene	100	82.2		ug/L	82	70 - 130	
Di-n-butyl phthalate	100	86.8		ug/L	87	70 - 130	
Fluoranthene	100	82.7		ug/L	83	70 - 130	
Pyrene	100	91.0		ug/L	91	70 - 130	
Butyl benzyl phthalate	100	98.8		ug/L	99	70 - 130	
Benzo[a]anthracene	100	94.5		ug/L	94	70 - 130	
Chrysene	100	102		ug/L	102	70 - 130	
Bis(2-ethylhexyl) phthalate	100	107		ug/L	107	70 - 130	
Di-n-octyl phthalate	100	94.6		ug/L	95	70 - 130	
Benzo[b]fluoranthene	100	104		ug/L	104	67 - 133	
Benzo[k]fluoranthene	100	91.8		ug/L	92	69 - 130	
Benzo[a]pyrene	100	106		ug/L	106	70 - 134	
Indeno[1,2,3-cd]pyrene	100	96.0		ug/L	96	70 - 130	
Dibenz(a,h)anthracene	100	91.5		ug/L	92	70 - 130	
Benzo[g,h,i]perylene	100	94.6		ug/L	95	69 - 130	
3,3'-Dichlorobenzidine	150	127		ug/L	85	63 - 130	
Pentachlorophenol	100	84.5		ug/L	84	57 - 130	

Surrogate	LCS	LCS	Limits
	% Recovery	Qualifier	
2-Fluorophenol	71		10 - 130
Phenol-d5	73		10 - 130
Nitrobenzene-d5	74		27 - 130
2-Fluorobiphenyl	77		23 - 130
2,4,6-Tribromophenol	100		18 - 130
Terphenyl-d14	90		10 - 141

## Method: 6010B - Metals (ICP)

**Lab Sample ID: MB 560-59965/1-A**

**Matrix: Water**

**Analysis Batch: 60008**

**Client Sample ID: MB 560-59965/1-A**

**Prep Type: Total/NA**

**Prep Batch: 59965**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ag	<0.0010		0.0050	0.0010	mg/L		05/24/11 10:00	05/24/11 15:23	1

TestAmerica Corpus Christi

# QC Sample Results

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

## Method: 6010B - Metals (ICP) (Continued)

**Lab Sample ID: MB 560-59965/1-A**

**Matrix: Water**

**Analysis Batch: 60008**

**Client Sample ID: MB 560-59965/1-A**

**Prep Type: Total/NA**

**Prep Batch: 59965**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
As	<0.0035		0.010	0.0035	mg/L		05/24/11 10:00	05/24/11 15:23	1
Ba	<0.0020		0.010	0.0020	mg/L		05/24/11 10:00	05/24/11 15:23	1
Cd	<0.00034		0.0050	0.00034	mg/L		05/24/11 10:00	05/24/11 15:23	1
Cr	<0.0011		0.010	0.0011	mg/L		05/24/11 10:00	05/24/11 15:23	1
Pb	<0.0033		0.010	0.0033	mg/L		05/24/11 10:00	05/24/11 15:23	1
Se	<0.0042		0.010	0.0042	mg/L		05/24/11 10:00	05/24/11 15:23	1

**Lab Sample ID: MB 560-59965/1-A**

**Matrix: Water**

**Analysis Batch: 60090**

**Client Sample ID: MB 560-59965/1-A**

**Prep Type: Total/NA**

**Prep Batch: 59965**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ag	<0.0010		0.0050	0.0010	mg/L		05/24/11 10:00	05/26/11 16:12	1
As	<0.0035		0.010	0.0035	mg/L		05/24/11 10:00	05/26/11 16:12	1
Ba	<0.0020		0.010	0.0020	mg/L		05/24/11 10:00	05/26/11 16:12	1
Cd	<0.00034		0.0050	0.00034	mg/L		05/24/11 10:00	05/26/11 16:12	1
Cr	<0.0011		0.010	0.0011	mg/L		05/24/11 10:00	05/26/11 16:12	1
Pb	<0.0033		0.010	0.0033	mg/L		05/24/11 10:00	05/26/11 16:12	1
Se	<0.0042		0.010	0.0042	mg/L		05/24/11 10:00	05/26/11 16:12	1

**Lab Sample ID: LCS 560-59965/2-A**

**Matrix: Water**

**Analysis Batch: 60008**

**Client Sample ID: LCS 560-59965/2-A**

**Prep Type: Total/NA**

**Prep Batch: 59965**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	Limits
Ag	0.400	0.405		mg/L		101	80 - 120
As	0.400	0.371		mg/L		93	80 - 120
Ba	0.400	0.381		mg/L		95	80 - 120
Cd	0.400	0.375		mg/L		94	80 - 120
Cr	0.400	0.377		mg/L		94	80 - 120
Pb	0.400	0.379		mg/L		95	80 - 120
Se	0.400	0.375		mg/L		94	80 - 120

**Lab Sample ID: LCS 560-59965/2-A**

**Matrix: Water**

**Analysis Batch: 60090**

**Client Sample ID: LCS 560-59965/2-A**

**Prep Type: Total/NA**

**Prep Batch: 59965**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	Limits
Ag	0.400	0.373		mg/L		93	80 - 120
As	0.400	0.374		mg/L		94	80 - 120
Ba	0.400	0.380		mg/L		95	80 - 120
Cd	0.400	0.375		mg/L		94	80 - 120
Cr	0.400	0.380		mg/L		95	80 - 120
Pb	0.400	0.385		mg/L		96	80 - 120
Se	0.400	0.380		mg/L		95	80 - 120

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# QC Sample Results

Client: TRC Solutions, Inc.  
Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

## Method: 6010B - Metals (ICP) (Continued)

**Lab Sample ID:** 560-26154-1 MS

**Matrix:** Water

**Analysis Batch:** 60008

**Client Sample ID:** Tank 26

**Prep Type:** Total/NA

**Prep Batch:** 59965

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Ag	<0.0010		0.400	0.423		mg/L		106	80 - 120	
As	0.0037		0.400	0.400		mg/L		100	80 - 120	
Ba	0.78		0.400	1.16		mg/L		105	80 - 120	
Cd	0.00059		0.400	0.394		mg/L		98	80 - 120	
Cr	0.0030		0.400	0.392		mg/L		97	80 - 120	
Pb	0.020		0.400	0.417		mg/L		99	80 - 120	
Se	<0.0042		0.400	0.394		mg/L		98	80 - 120	

**Lab Sample ID:** 560-26154-1 MSD

**Matrix:** Water

**Analysis Batch:** 60008

**Client Sample ID:** Tank 26

**Prep Type:** Total/NA

**Prep Batch:** 59965

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit
Ag	<0.0010		0.400	0.417		mg/L		104	80 - 120	1	20
As	0.0037		0.400	0.390		mg/L		97	80 - 120	3	20
Ba	0.78		0.400	1.18		mg/L		107	80 - 120	1	20
Cd	0.00059		0.400	0.386		mg/L		96	80 - 120	2	20
Cr	0.0030		0.400	0.384		mg/L		95	80 - 120	2	20
Pb	0.020		0.400	0.411		mg/L		97	80 - 120	2	20
Se	<0.0042		0.400	0.392		mg/L		98	80 - 120	0	20

## Method: 7470A - Mercury (CVAA)

**Lab Sample ID:** MB 560-60032/4-A

**Matrix:** Water

**Analysis Batch:** 60019

**Client Sample ID:** MB 560-60032/4-A

**Prep Type:** Total/NA

**Prep Batch:** 60032

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	0.000163	J	0.0020	0.00013	mg/L		05/25/11 14:29	05/25/11 10:41	1

**Lab Sample ID:** LCS 560-60032/5-A

**Matrix:** Water

**Analysis Batch:** 60019

**Client Sample ID:** LCS 560-60032/5-A

**Prep Type:** Total/NA

**Prep Batch:** 60032

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.	
	Added						Result	Limits
Mercury	0.00500	0.00539		mg/L		108	80 - 120	

**Lab Sample ID:** 560-26154-3 MS

**Matrix:** Water

**Analysis Batch:** 60019

**Client Sample ID:** Tank 30

**Prep Type:** Total/NA

**Prep Batch:** 60032

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Mercury	0.0013	J	0.00500	0.00618		mg/L		98	80 - 120	

**Lab Sample ID:** 560-26154-3 MSD

**Matrix:** Water

**Analysis Batch:** 60019

**Client Sample ID:** Tank 30

**Prep Type:** Total/NA

**Prep Batch:** 60032

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Mercury	0.0013	J	0.00500	0.00650		mg/L		104	80 - 120	5

TestAmerica Corpus Christi

## Certification Summary

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Corpus Christi		USDA		P330-11-00060
TestAmerica Corpus Christi	Kansas	NELAC	7	E-10362
TestAmerica Corpus Christi	Oklahoma	State Program	6	9968
TestAmerica Corpus Christi	Texas	NELAC	6	T104704210-11-5

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

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## Method Summary

Client: TRC Solutions, Inc.

Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CC
6010B	Metals (ICP)	SW846	TAL CC
7470A	Mercury (CVAA)	SW846	TAL CC

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

## Sample Summary

Client: TRC Solutions, Inc.  
Project/Site: Falcon

TestAmerica Job ID: 560-26154-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-26154-1	Tank 26	Water	05/20/11 10:10	05/20/11 16:30
560-26154-2	Tank 10	Water	05/20/11 11:40	05/20/11 16:30
560-26154-3	Tank 30	Water	05/20/11 14:15	05/20/11 16:30
560-26154-4	Tank 7	Water	05/20/11 15:00	05/20/11 16:30

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## CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION		PROJECT INFORMATION		ANALYSIS/METHOD REQUEST		LAB JOB NO.		
COMPANY: TRC	SEND REPORT TO: Richard Kotzur	PROJECT NAME/NUMBER: FALCON	BILL TO: Same	NUMBER OF CONTAINERS	TOTAL METALS	Loc: 560 26154		
ADDRESS: 10011 Meadowglen Lane Suite 100 Houston, TX 77042		ADDRESS:		VOCs	S VOCs	SEAL INTACT ND COOLER TEMP 24C IR GUN ID 4 INITIAL DATE 05/20/11		
PHONE: 713-244-1065	PHONE:	PO NO:						
FAX: 713-244-1099	FAX:					REMARKS/PRECAUTIONS:		
SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER	PRESERV.		
	TANK 26	5/20/11	10:10	WATER		HCl / HNO3	6	✓ ✓ ✓
	TANK 10	5/20/11	11:40	WATER		HCl / HNO3	6	✓ ✓ ✓
	TANK 30	5/20/11	14:15	WATER		HCl / HNO3	6	✓ ✓ ✓
	TANK 7	5/20/11	15:00	WATER		HCl / HNO3	6	✓ ✓ ✓
SAMPLER: Paul Supak		SHIPMENT METHOD: Drop off		AIRBILL NO.:		email results to r.kotzur@trcsolutions.com		
REQUIRED TURNAROUND <input type="checkbox"/> ROUTINE TAT (10 BUSINESS DAYS) <input checked="" type="checkbox"/> RUSH TAT (MAY REQUIRE SURCHARGE)		3 day						
1. RELINQUISHED BY:  SIGNATURE: Paul Supak	DATE: 5/20/11	2. RELINQUISHED BY:  SIGNATURE:	DATE	3. RELINQUISHED BY:  SIGNATURE:	DATE			
PRINTED NAME/COMPANY: OAINCO	TIME: 16:30	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME			
1. RECEIVED BY:  SIGNATURE: Alice J Magee	DATE: 05/20/11	2. RECEIVED BY:  SIGNATURE:	DATE	3. RECEIVED BY:  SIGNATURE:	DATE			
PRINTED NAME/COMPANY: TAC	TIME: 16:30	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME			

TestAmerica

1733 N. Padre Island Drive

Corpus Christi, TX 78408

Phone: 361.289.2673/Fax: 361.289.2471

TAL-8222-560 (1209)

## Login Sample Receipt Checklist

Client: TRC Solutions, Inc.

Job Number: 560-26154-1

**Login Number:** 26154

**List Source:** TestAmerica Corpus Christi

**List Number:** 1

**Creator:** Magee, Alice J.

Question	Answer	Comment	
Radioactivity either was not measured or, if measured, is at or below background	N/A		1
The cooler's custody seal, if present, is intact.	True		2
The cooler or samples do not appear to have been compromised or tampered with.	True		3
Samples were received on ice.	True		4
Cooler Temperature is acceptable.	True		5
Cooler Temperature is recorded.	True	2.4°C	6
COC is present.	True		7
COC is filled out in ink and legible.	True		8
COC is filled out with all pertinent information.	True		9
Is the Field Sampler's name present on COC?	True		10
There are no discrepancies between the sample IDs on the containers and the COC.	True		11
Samples are received within Holding Time.	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	True		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		

**WORKSHEET 3.1**  
**SURFACE LAND DISPOSAL OF EFFLUENT**

**REQUIRED FOR ALL RENEWAL, AMENDMENT, AND NEW APPLICATIONS  
FOR A PERMIT TO DISPOSE OF WASTEWATER BY SURFACE LAND  
DISPOSAL.**

**1. SURFACE SPRAY** (Instructions, Page 64)

Complete the item that is applicable for the method of disposal being utilized.

Area under irrigation:	5.5316	acres
Design application rate:	3.3292	acre-feet/acre/year
Design application frequency:	6	hours/day
	5 - 7	days/week
Design Total Nitrogen loading rate:	0.465	lbs N/acre/day
Land grade:	average: 1	percent (%)
	maximum: 1	percent (%)
Irrigation efficiency:	85	percent (%)
Effluent Conductivity:	8.0	mmhos/cm

Method of Application: Irrigation

- Indicate by a check mark that a detailed attachment is provided with the application including an engineering report with water balance and storage volume calculations and nitrogen balance.

**Attachment No.:** 3-G

**2. EVAPORATION PONDS** (Instructions, Page 64)

Daily average effluent flow into ponds: \_\_\_\_\_ gallons per day

- Indicate by a check mark that a separate engineering report with water balance and storage volume calculations was provided with the application.

**3. EVAPOTRANSPIRATION BEDS** (Instructions, Page 65)

Number of beds:	0
Area of bed(s):	_____ acres
Depth of bed(s):	_____ feet
Void ratio of soil in the beds:	_____
Storage volume within the beds:	_____

- Indicate by a check mark that a separate engineering report with water balance and storage volume calculations, and description of the lining is provided with the application.

#### **4. OVERLAND FLOW** (Instructions, Page 65)

Area used for application: \_\_\_\_\_ acres  
Slopes for application area: \_\_\_\_\_ percent (%)  
Design application rate: \_\_\_\_\_ gpm/foot of slope width  
Slope length: \_\_\_\_\_ feet  
Design BOD<sub>5</sub> loading rate: \_\_\_\_\_ lbs BOD<sub>5</sub>/acre/day  
Design application frequency: \_\_\_\_\_ hours/day **and** \_\_\_\_\_ days/week

Indicate by a check mark that the necessary information is provided. Provide a separate engineering report with the method of application and design requirements according to 30 TAC Section 317.10.

#### **5. EDWARDS AQUIFER RECHARGE AREA** (Instructions, Page 65)

Is the facility subject to 30 TAC Chapter 213, Edwards Aquifer Rules?  Yes  No

If **yes**, indicate by a check mark that a report concerning the recharge area was provided with the application.

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## **Attachment 3-G**

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### **Engineering Report**

**WATER BALANCE AND STORAGE CALCULATIONS  
ENGINEERING REPORT  
FALCON REFINERY IRRIGATION SYSTEM  
INGLESIDE, TX**

**Basis of Design**

**General Site Data**

- 1) Location.
  - (A) Site Map. Figure 3 of the Texas Land Application Permit (TLAP) Application provides a copy of the USGS topographic map of the irrigation area that indicates the exact boundaries of the irrigation disposal operation.
  - (B) Site Drawing. Figure 2 of the TLAP application provides the scale drawing and legal description of the irrigation field that is designated for effluent disposal, the water treatment system, and the stormwater runoff controls. All of the land disposal application area and buffer zone are located within the property owned by NORCO, the applicant. Figures 2A and 2B depict the names of the surrounding property owners.
- 2) Geology.

There are no unusual geologic formations such as faults or sink holes on the irrigation field. Surface deposits consist of Quaternary Alluvium, which is comprised of clay, silt and sand of varying grain size. Beneath the alluvium is the Pleistocene Aged Beaumont Clay, which is comprised of clay that is interbedded with medium to fine sand. Both formations typically yield small to moderate quantities of fresh to moderately saline groundwater.
- 3) Soils.

Attachment 3-D of the TLAP Application is the NRCS Soil Map and standard Soil Classification Data for the entire land application area. The irrigation system design provided below in this technical report is based on the soil physical and chemical properties, hydraulic characteristics, and existing natural vegetation suitability for the effluent application rate. Stormwater runoff controls are provided and are depicted in Figure 2 of the application. The irrigation area is 98.8% within the Mustang Fine Sand area and 0.2% in the Galveston-Mustang association. A summary of the soil map unit description is provided in Attachment 3-D. In addition, following Section 6 of Worksheet 3.0, the following soil engineering properties were also obtained from the NRCS Web Soil Survey website [<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>]:

  - 94.4% of soil was retained on the No. 200 sieve (94.4% sand)
  - 5.6% of soil passes the No. 200 sieve (5.0% clay, 0.6% silt)
  - Liquid Limit (0"-6", 6"-18", 18"-30"): 15.0
  - Plasticity Index (0"-6", 6"-18", 18"-30"): 1.5
  - Soil permeability (0"-6", 6"-18", 18"-30"): 92.000 micrometers per second.

4) Groundwater Quality.

The shallow groundwater that occurs at depths of approximately 3.5 to 8 feet bgs is most likely brackish water. There is frequent flooding in this area from ocean saltwater. The Chicot aquifer is isolated from the ground surface due to the Beaumont clay layers that occur from depths ranging from 8 to 12 feet bgs.

- (A) Attachment 3-C of the TLAP Application provides the most recent Texas Water Well Report for the 0.5-mile radius around the irrigation field (Banks, July 2011). Two water wells (83-15-2F) advanced to depths of 45 feet and 135 feet below ground surface were identified in the report as located within the wetland area approximately 800 feet east of the irrigation field. However, during a 0.25-mile door-to-door survey conducted on July 13, 2011, the wells do not appear in the location shown in the Well radius map. These wells were installed in 1972 and 1976, respectively. The historical location map provided in the Texas Well Report shows that their location is approximately 0.8 miles northwest of the site irrigation field. The TWDB Water Information Integration and Dissemination (WIID) Groundwater Database [[http://wiid.twdb.state.tx.us/ims/wwm\\_drl/viewer.htm?](http://wiid.twdb.state.tx.us/ims/wwm_drl/viewer.htm?)] showed two wells (State Well ID Nos. 8315203 and 8315206) located at 0.47 and 0.49 miles, respectively, from the southwest corner of the irrigation field. These wells were not provided in the Texas Water Well Report generated by Banks Data Systems; however, their records were downloaded from the TWDB site and included in Attachment 3C. Water quality data was not available for these wells; however, they are located upgradient to the site irrigation field. Finally, Figure 7 from the Superfund RI/FS Report dated May 11, 2007, indicated that a door-to-door survey conducted in the residential neighborhood north of the Falcon Refinery showed the presence of five privately-owned domestic or irrigation wells. Details from the survey are provided on Figure 7, which is included at the end of Attachment 3-C. These wells appear to be located at approximately 0.25 miles north of the proposed irrigation field; however, they did not appear in the most recent Texas Water Well Report (Banks, July 2011). Water quality data is not available for these wells.
- (B) The proposed irrigation system is designed to protect groundwater resources that may serve as sources or potential sources of domestic raw water supply. The effluent application rates for the irrigation system are below the sum of the soil retention, total evapotranspiration, interception, and sprinkler evaporation rates, as discussed in the water balance and storage calculations in the hydraulic application rates section below. In addition, as discussed in the geology section above, there is a Beaumont clay layer that appears from approximately 12 feet bgs (Kleinfelder, 2007).

5) Agricultural Practice.

There are no agricultural practices located within the Falcon Refinery and the proposed irrigation field located within the Falcon Refinery property. The zone of land designated for irrigation contains only native vegetation: wild grasses, weeds, and small shrubs. There are no crops being grown or maintained on the property. Thus, there are no harvests of native grasses conducted at this site. The grounds are mowed one to two times per year to control the overgrowth of native vegetation.

**Irrigation Data**

The effluent used for irrigation will be treated, as necessary, for pH stabilization within the 6.0 to 9.0 range, will be filtered to remove concentrations of constituents of concern, and will be treated to reduce the total specific conductance and total dissolved solids, as needed, to meet the necessary effluent standards that are appropriate for the onsite disposal via surface spray irrigation. The effluent is not domestic or industrial sewage.

- 1) Conditions of Effluent
  - (A) The irrigation system is designed to prevent the land application from entering surface waters, and to prevent the recharge of groundwater resources which supply or offer the potential of supplying domestic raw water.
  - (B) The irrigation is designed to achieve effluent disposal without any adverse effect on the inherent potential for agricultural productivity of the land application area.
  - (C) There are no economic benefits from native vegetation growth within the land application area.
  - (D) The site operator shall maintain control over all aspects of the effluent treatment prior to irrigation in the land application area.
  - (E) The purpose of the land application via irrigation is to dispose of a finite volume of rain water that has accumulated inside above ground storage tanks.

- 2) Design Analysis

The proposed irrigation system has been designed based on a detailed analysis of the limiting hydraulic and nutrient application rates and effluent storage needs as the basis of the disposal system design.

(A) Hydraulic Application Rate.

The water balance and storage calculations were conducted in accordance with the guidance provided in the TCEQ Completing the Industrial Wastewater Permit Application. The system design proposed is surface land disposal of treated effluent via surface spray irrigation. There are no open storage ponds. The basis of design is summarized in the water balance and storage calculations provided below. An explanation for the data parameters used in the proposed design are provided below with references to the data columns of Table 1 (Water Balance Calculations) and Table 2 (Water Storage Calculations).

**TABLE 1**

Column

- 1 **Month**, representative of most conservation scenario. The month of August is arbitrarily used as an example for the land application calculations.
- 2 **Average Rainfall (P)** for the previous 50 years: Data for Ingleside was obtained from the Texas Water Development Board (TWDB) for the years 1940 through 2010. August Average Rainfall is 2.93 inches per month.
- 3 **Average Runoff (Q):** The Natural Resources Conservation Service (NRCS) approach for average direct runoff was calculated using the site-specific curve number for Hydrologic Soil Group A (minimum infiltration rate of 0.3 to 0.45 inches per hour), soil texture: fine sand, which is appropriate for the Mustang Fine Sand group identified in the NRCS Soil Survey Data.

The land use is pasture or range, with greater than 75% grasses and brush cover, which are good hydrologic conditions. Therefore, the Curve Number (CN) for the antecedent moisture condition II, average conditions, is 39 (Gupta, 2001). The potential maximum soil retention volume, S =  $(1000/CN) - 10$ ; i.e., S is 15.64 inches. The runoff is

$$Q [\text{in}] = (2.93 \text{ in} - 0.2(15.64 \text{ in}))^2 / (2.93 \text{ in} + 0.8(15.64 \text{ in})) = 0.003 \text{ inches per month}$$

- 4 **Average Infiltrated Rainfall (Ri):** Obtained by subtracting the average runoff from the average rainfall. For August, the Ri (average) = (2.93 in) – (0.003 in) = 2.927 inches per month
- 5 **Average Monthly Evapotranspiration (ET)** rate for the month of August, as calculated by the Texas A&M Water Resources Institute Irrigation Technology Center, is 6.65 inches per month for the Corpus Christi area.
- 6 **Required Leaching (L):** The parameters used for the required leaching equation (30 TAC 309.20) are provided below. Regarding the specific conductance measured for the effluent sample from Tank 26, the result was 19.0 mmhos/cm (mS/cm). Based on other measurements done for tank water at the site of 1.97 mS/cm, the average result expected for the effluent in the tank is 10.48 mS/cm. Additional water treatment is proposed to reduce the conductivity to levels low enough to prevent additional salinity build up in the soil. The final conductivity will be maintained below 8.0 mS/cm prior to irrigation under this permit.

$$Ce = 8.0 \text{ mS/cm} \quad (\text{Specific Conductance})$$

$$Cl = 12.0 \text{ mS/cm} \quad (\text{for highly salt tolerant vegetation})$$

$$L = [Ce/(Cl - Ce)](ET - Ri).$$

For August, the required leaching is L = 7.45 inches.

- 7 **Total Water Needs:** Obtained by adding evapotranspiration and the required leaching. For the month of August, the total water needs are 14.10 inches.
- 8 **Effluent Needed in Root Zone:** Obtained by subtracting the Average Infiltrated Rainfall (Ri) from the Total Water Needs. For August, the amount of effluent needed in the root zone will be 11.168 inches.
- 9 **Evaporation from Reservoir Surface:** The wastewater to be discharged under this permit is stored inside an aboveground storage tank (AST). There are no ponds or reservoir surfaces associated with the discharge operations specified in this permit application. Therefore, there are no losses of water via evaporation during storage of the water.
- 10 **Effluent Applied to Land:** Obtained by dividing the effluent need in the root zone by the default irrigation efficiency, k = 0.85. For August, the effluent applied to land is 13.138 inches.
- 11 **Consumption from Reservoir:** Sum of the net evaporation from the reservoir (which for Tank 26 is zero) and the effluent to be applied to land. This is the maximum hydraulic application rate that can be applied over the irrigated area.

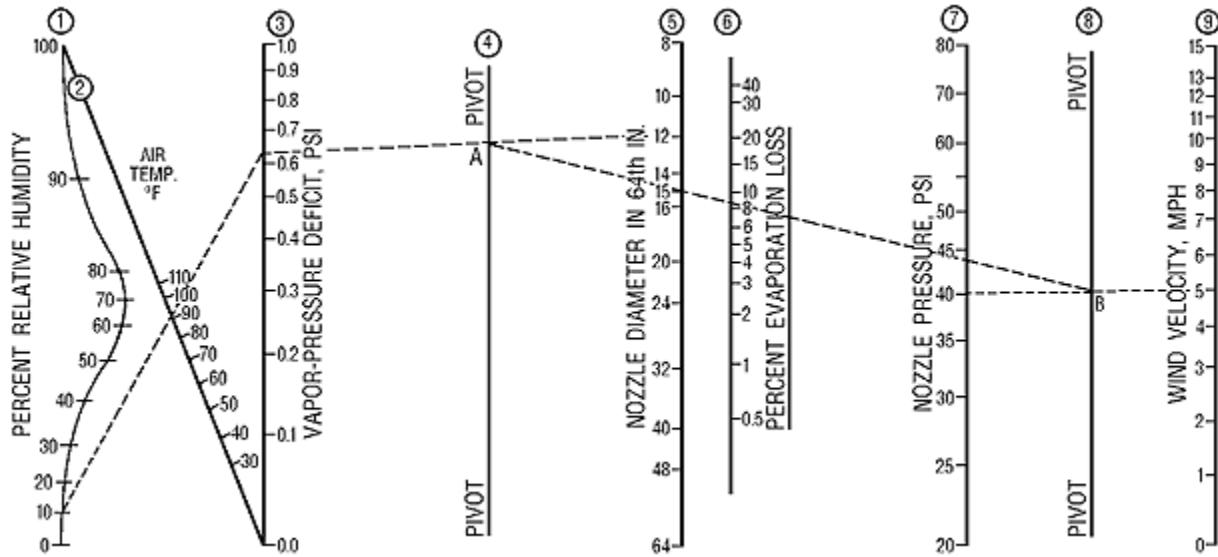
#### TABLE 2

##### Column

- 12 Month

- 13 **Effluent Applied to Land:** This is the effluent received for application or storage. The average application rate must be less than or equal to the consumption from reservoir. Losses due to evaporation during spray irrigation and airborne water droplets were not quantified in this calculation. The irrigation system design proposed for this permit will limit the effluent discharge to 3.329 inches per acre per month.
- 14 **Worst Rainfall Year** in the past 25 years distributed proportional to monthly averages. Rainfall data for Ingleside was obtained from the TWDB for the years 1985 through 2010, where the highest annual rainfall was observed in 1997 at 42.24 inches per acre, per year. The percent distribution of mean rainfall from column 2 was applied as a factor to the total annual worst rainfall (42.24 inches). Therefore, the rainfall in August is set to 9.86% of 42.24 inches, or 4.16 inches per month.
- 15 **Worst Runoff Year** in the past 25 years was calculated using the same NRCS Curve Number formula for runoff that was used in Column 3, using the precipitation value for the worst rainfall year (Column 14).
- 16 **Infiltrated Rainfall:** Obtained by subtracting the worst runoff year from the worst rainfall year.
- 17 **Available Water:** The sum of the amount of effluent received for application and the infiltrated rainfall.
- 18 **Lowest Annual Evaporation** in the past 25 years was obtained from the TWDB data bank, which included the years between 1985 and 2010, which was observed in 2003 at an annual total evaporation of 50.69 inches. Since there are no impoundments or ponds involved in this irrigation system, the Frost and Schwalen Nomograph, shown below, was used to estimate the percent evaporation loss from 1/16" nozzle sprinklers operating at 25 PSI for each month of the irrigation period. The percent evaporation loss was applied to the effluent applied to land value (Column 13), based on the guidelines provided by Smajstria and Zazueta (2003). Additional weather data required for the nomograph included the average percent relative humidity for early afternoon during each month of the year (NCDC, 2011), the average air temperature for early afternoon and the average wind speed during each month of the year (NCDC, 2011).
- 19 **Storage:** Obtained by calculating according to 30 TAC 309.20 Table 2. The storage calculation for the months of September and October result in zero because the effluent applied to land was set to zero for the months of September and October. Therefore, the month that will have the highest active storage of effluent applied will be January.
- 20 **Accumulated Storage:** To allow for the worst condition, the summation of storage was obtained by adding the monthly storage values from Column 19, beginning with the first consecutive month of positive values, which in this case was November, since no irrigation will be applied in September and October. The maximum accumulated storage is expected during the month of January at 0.78 inches.

The figure below is an example for using the nomograph for Column 18.



Reference: Evaporation Loss During Sprinkler Irrigation, Frost and Schwalen Nomograph (1960).

#### **Design Application Area for Irrigation:**

The application rate was obtained from the Water Balance and Storage Calculations Tables provided by 30 TAC 309.20, which resulted in 7.998 inches per acre per month. However, the design application rate has been set to 3.329 inches per acre per month. The total volume intended for disposal via irrigation will be potentially up to but not above 2,000,000 gallons currently stored in Tank 26. Given that the optimal schedule for irrigation is from November through August, the irrigation area of 5.5316 acres was calculated based on 4 months of operation. In order to achieve the 5.5316-acre irrigation area, 91 sprinklers operating at 0.56 GPM at 25 PSI will be operated on an average daily basis or 6 hours per day, or a total application rate of 16,667 gallons per day.

Given that the design application duration is for a total of 4 months only, the potential for developing excessive soil salinity buildup is not expected since the duration of the irrigation system operation is only for a short term.

#### **(B) Effluent Storage.**

There are no evaporation ponds, water storage ponds, or open channel conveyances as part of the proposed irrigation system. Therefore, no effluent storage calculations were required for freeboard calculations using the 25-year design rainfall.

#### **(C) Nitrogen Application Rate.**

The total effluent nitrogen concentration is the sum of total Kjeldahl nitrogen and inorganic nitrogen sources, which is 18.6 mg/L. The annual crop requirement of nitrogen (N) is assumed to be 60 pounds of nitrogen per acre for grass pastures, plus 20% for volatilization.

$$L = N / (2.7C) = (72 \text{ lbs/acre/Yr}) / (2.7 \times 18.6 \text{ mg/L}) = 1.433 \text{ feet-acre/year}$$

Design Total Nitrogen loading rate: 18.6 mg/L of total Nitrogen will be applied for 2 million gallons irrigated in 4 months, or 120 days.

$$(18.6 \text{ mg/L})(\text{lb}/453,592 \text{ mg})(3.76 \text{ L/gal}) = 0.000154 \text{ lbs/gal}$$

$$(0.000154 \text{ lbs/gal})(2,000,000 \text{ gal}) / (120 \text{ days}) / (5.5316 \text{ acres}) = 0.465 \text{ lbs/acre/day}$$

(D) Soil Testing.

Representative soil samples were collected at ten hand-auger borings advanced on July 13 and 14, 2011. From each hand auger boring, three soil horizons were sampled; namely, from 0 to 6 inches below ground surface, 6 to 18 inches, and 18 to 30 inches. A composite soil sample was generated for each of the three soil horizons, and were labeled as Comp-A-0-6, Comp-B-6-18, and Comp-C-18-30. The soil samples were representative of the proposed irrigation field, and were analyzed for pH, total nitrogen, potassium, phosphorous, and conductivity.

The soil samples were analyzed for sodium adsorption ratio, and its constituent parameters, sodium, calcium and magnesium. Plant available nutrients (potassium, phosphorous, calcium, magnesium, sodium, and sulfur) were obtained using a Mehlich III soil extract and were analyzed on a plant-available basis. Table 3 summarizes the results of irrigation soil analyses.

EVAPORATION LOSS ESTIMATE  
FROM SPRINKLER SYSTEM

	AVE. RELATIVE HUMIDIT Y <sup>1</sup> [%]	AVE. HIGH TEMP <sup>2</sup> [°F]	AVE. LOW TEMP <sup>2</sup> [°F]	DAYTIME TEMP <sup>3</sup> [°F]	VAPOR PRESSURE DEFICIT <sup>4</sup> [PSI]	NOZZLE DIAMETE R <sup>5</sup> [64TH IN]	NOZZLE PRESSURE <sup>5</sup> [PSI]	AVE. WIND SPEED <sup>1</sup> [MPH]	PERCENT EVAPORATIO N LOSS <sup>4</sup> [%]
JAN	62%	65.0	45.3	60.1	0.10	4	25	15.0	7.0%
FEB	59%	69.0	48.0	63.8	0.14	4	25	16.1	8.5%
MAR	57%	75.7	55.3	70.6	0.18	4	25	17.3	10.1%
APR	61%	81.7	63.2	77.1	0.18	4	25	15.0	9.0%
MAY	64%	86.2	69.5	82.0	0.20	4	25	13.8	9.9%
JUN	62%	90.4	73.4	86.2	0.23	4	25	12.7	9.9%
JUL	56%	93.3	74.8	88.7	0.31	4	25	12.7	12.0%
AUG	56%	93.4	75.0	88.8	0.31	4	25	12.7	12.0%
SEP	60%	89.7	72.3	85.4	0.24	4	25	11.5	11.0%
OCT	57%	83.9	63.9	78.9	0.22	4	25	10.4	8.0%
NOV	58%	75.8	55.6	70.8	0.17	4	25	13.8	8.5%
DEC	60%	68.3	48.4	63.3	0.12	4	25	15.0	7.5%

**Notes:**

- 1 National Climactic Data Center, Average Relative Humidity Data, Corpus Christi, Texas.
- 2 National Climactic Data Center, Texas Climate, Corpus Christi, Texas.
- 3 Estimate for average afternoon temperature, based on average high and low temperatures
- 4 From the Frost and Schwalen (1960) Nomograph for estimating evaporation during sprinkler irrigation
- 5 Rain Bird Model 14VH Full Circle Impact Sprinkler with straight bore nozzle (4/64 in size).

**TEXAS LAND APPLICATION PERMIT**  
**FALCON REFINERY IRRIGATION SYSTEM**  
**INGLESIDE, TX**

**MONTHLY WATER BALANCE, TABLE 1**

1	2	3	4	5	6	7	8	9	10	11
	AVERAGE RAIN [IN/MONTH]	AVERAGE RUNOFF	AVERAGE INFILTRATED RAINFALL	EVapo- TRANSPiR- ATiON	REQUiRED LEACHiNG [iN]	TOTAL WATER NEEDS	EFFLUENT NEEDED iN ROOT ZONE	EVAPORATiON FROM RESERVOiR SURFACE	EFFLUENT APPLIED TO LAND	CONSUMPTiON FROM RESERVOiR [iN/ACRE]
JAN	1.65	0.154	1.496	2.42	1.85	4.27	2.773	0	3.262	3.262
FEB	1.82	0.119	1.701	2.95	2.50	5.45	3.748	0	4.410	4.410
MAR	1.40	0.215	1.185	4.28	6.19	10.47	9.284	0	10.922	10.922
APR	1.82	0.119	1.701	5.17	6.94	12.11	10.408	0	12.245	12.245
MAY	3.13	0.000	3.130	5.95	5.64	11.59	8.460	0	9.953	9.953
JUN	2.95	0.002	2.948	6.43	6.96	13.39	10.446	0	12.290	12.290
JUL	2.20	0.059	2.141	6.68	9.08	15.76	13.616	0	16.018	16.018
AUG	2.93	0.003	2.927	6.65	7.45	14.10	11.168	0	13.138	13.138
SEP	5.15	0.231	4.919	5.21	0.58	5.79	0.874	0	1.029	1.029
OCT	3.44	0.006	3.434	4.34	1.81	6.15	2.718	0	3.198	3.198
NOV	1.72	0.139	1.581	3.01	2.86	5.87	4.288	0	5.045	5.045
DEC	1.51	0.187	1.323	2.59	2.53	5.12	3.800	0	4.471	4.471
<b>ANNUAL</b>	<b>29.72</b>	<b>1.23</b>	<b>28.49</b>	<b>55.68</b>	<b>54.39</b>	<b>110.07</b>	<b>81.58</b>	<b>0</b>	<b>95.980</b>	<b>95.980</b>

**TEXAS LAND APPLICATION PERMIT**  
**FALCON REFINERY IRRIGATION SYSTEM**  
**INGLESIDE, TX**

**STORAGE VOLUME REQUIREMENT, TABLE 2**

12	13	14A	14B	15	16	17	18A	18B	19	20
	EFFLUENT APPLIED TO LAND [INCHES/AC]	MEAN RAINFALL DISTRIBU T. (%)	WORST RAINFALL YEAR* [IN]	WORST RUNOFF YEAR* [IN]	INFILTRATED RAINFALL [INCHES]	TOTAL AVAIL. WATER [INCHES]	LOWEST ANNUAL EVAPORATION [INCHES]	NET EVAPORATIO N (MIN) [INCHES]	STORAGE [IN-AC/AC]	ACCUMULATED STORAGE [IN-AC/AC]
JAN	3.329	5.55%	2.35	0.04	2.30	5.63	2.39	0.233	0.78460	0.78
FEB	3.329	6.12%	2.59	0.02	2.57	5.90	2.56	0.283	-0.34391	0.44
MAR	3.329	4.71%	1.99	0.09	1.90	5.23	3.01	0.336	-7.08821	-6.65
APR	3.329	6.12%	2.59	0.02	2.57	5.90	3.82	0.300	-8.19585	-14.84
MAY	3.329	10.53%	4.45	0.10	4.35	7.67	5.27	0.330	-5.52323	-20.37
JUN	3.329	9.93%	4.19	0.07	4.12	7.45	5.85	0.330	-7.90555	-28.27
JUL	3.329	7.40%	3.13	0.00	3.13	6.46	5.53	0.399	-11.92964	-40.20
AUG	3.329	9.86%	4.16	0.06	4.10	7.43	6.24	0.399	-8.82950	-49.03
SEP	0	17.33%	7.32	0.89	6.43	6.43	4.81	0.000	0.00000	0.00
OCT	0	11.57%	4.89	0.18	4.71	4.71	4.09	0.000	-1.69564	-1.70
NOV	3.329	5.79%	2.44	0.03	2.41	5.74	3.68	0.283	-1.01896	-2.71
DEC	3.329	5.08%	2.15	0.07	2.08	5.41	3.44	0.250	-0.50075	-3.22
<b>ANNUAL</b>	<b>33.290</b>	<b>100%</b>	<b>42.24</b>	<b>1.57</b>	<b>40.67</b>	<b>73.96</b>	<b>50.69</b>	<b>3.143</b>		<b>0.78</b>

**Notes:**

\* In the past 25 years, i.e., from 1985 to 2010.

Irrigation will operate between the months of November through August.

## CALCULATION OF IRRIGATION AREA

Parameter	Units	Description
APPLICATION RATE	3.329 0.27742 12,084.27	IN/ACRE/MONTH FT/ACRE/MONTH FT-3/AC/MONTH
TOTAL TOTAL No. of Months MONTHLY SYSTEM FLOW RATE	2,000,000 267,379.68 4.0 66,844.92 500,000 16,667 51.1 5.4	GAL FT-3 Months FT-3/MONTH GAL/MONTH GPD GPM HOURS/DAY
Irrig. Area: Sprinkler Radius Sprinkler Area Sprinkler Q # of Sprinklers Available Area	5.5316 29 0.060654 0.56 91 620' x 1200'	Acres Needed Linear Feet Acres GPM per sprinkler
		(Operate between November and August)  Optimal operating time is early afternoon.

**Note:** Although the Water Balance calculations in Table 2 allow for an "Effluent Applied to Land" rate to be 7.998 inches per acre, the proposed irrigation system is designed to apply a more conservative application rate of 3.329 in/acre.

**Table 3. Irrigation Soil Analytical Results**

Analyte	Units	Composite Soil Samples		
		Comp-A-0-6	Comp-B-6-18	Comp-C-18-30
<b>Soil Properties</b>				
pH	pH	7.45	8.31	8.34
Specific Conductance	mS/cm	2.63	1.85	1.34
Sodium Adsorption Ratio	unitless	2.50	3.90	1.10
Sodium	mg/L	94.8	53.6	13.4
Calcium	mg/L	49.7	3.30	1.40
Magnesium	mg/L	36.7	6.70	6.10
Total Nitrogen	mg/Kg	815	214	240
Kjeldahl Nitrogen	mg/Kg	815	214	240
Nitrate Nitrogen	mg/Kg	< 14.5	< 14.5	< 15.6
Nitrite Nitrogen	mg/Kg	< 52.2	< 52.2	< 56.0
<b>Plant Available Nutrients</b>				
Potassium	mg/Kg	155	74	90
Phosphorous, Mehlich 3	mg/Kg	5	7	7
Calcium	mg/Kg	15,800	3,130	17,900
Magnesium	mg/Kg	491	310	834
Sulphur	mg/Kg	88	43	66
Sodium	mg/Kg	1,180	557	730
<b>Total Metals</b>				
Arsenic	mg/Kg	0.752 J	0.606 J	1.43 J
Barium	mg/Kg	96.9	15.2	30.0
Cadmium	mg/Kg	0.0840 J	0.0614 J	0.0656 J
Chromium	mg/Kg	1.73	0.996	2.07
Lead	mg/Kg	4.84	3.33	2.50
Selenium	mg/Kg	< 0.174	< 0.196	< 0.179
Silver	mg/Kg	< 0.0968	< 0.109	< 0.0996
Mercury	mg/Kg	< 0.0101	0.0182 J	< 0.0165
<b>Detected VOCs</b>				
Acetone	mg/Kg	0.0136 J	---	---
Methylene Chloride	mg/Kg	---	---	0.00493 J
<b>Detected SVOCs</b>				
Bis(2-ethylhexyl) phthalate	mg/Kg	0.0383 J	0.0203 J	0.0270 J

Notes:

Comp-A-0-6 Composite soil sample collected from 10 hand auger boring locations at 0 to 6 inches bgs.

Comp-B-6-18 Composite soil sample collected from 10 hand auger boring locations at 6 to 18 inches bgs.

Comp-C-18-30 Composite soil sample collected from 10 hand auger boring locations at 18 to 30 inches bgs.

The 10 hand auger boring locations (HA-01 through HA-10) are shown in Figure 2.

mS/cm Millisiemens per centimeter, equivalent to millimhos per centimeter.

--- Analyte was not detected

J Result is less than the Method Quantitation Limit (MQL) but greater than or equal to the Sample Detection Limit (SDL) and the concentration is an estimated value.

---

## **Attachment 3-H**

---

### **Specifications**



## 14VH

### 1/2" 13mm Full Circle, Brass, Wedge Drive Impact Sprinkler

**BEARING:** 1/2" Male NPT, Brass

**Trajectory Angle:** 23°

**Operating Range:** 20-60 psi 1.4-4.1 bars

**Flow Rate:** .56-2.68 GPM 0.14-0.61 m<sup>3</sup>/h

**Radius:** 29-38 ft. 9.0-11.70 meters

One 1/8" Female NPT Nozzle Port

#### Features

- Patented, self-flushing wedge drive
- Durable brass die-cast arm
- Stainless steel springs and fulcrum pin
- Chemically resistant washers
- Two-year warranty

#### Benefits

- Wedge drive runs on smaller nozzles and lower pressures
- Self-flushing design reduces wear from grit
- Corrosion and grit resistant
- Built to last

#### PERFORMANCE DATA

U.S. STANDARD DATA | METRIC DATA

14VH

#### STRAIGHT BORE NOZZLE (SBN-1)\*

(Stream Height: 6 ft.)

PSI @ Nozzle	NOZZLE SIZE U.S. STANDARD									
	1/16"		51 DRILL		5/64"		3/32"		7/64"	
	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
20	-	-	29	0.59	30	0.79	33	1.14	34	1.55
25	29	0.56	29	0.65	31	0.88	33	1.27	35	1.73
30	29	0.62	30	0.71	31	0.97	34	1.39	35	1.90
35	30	0.66	30	0.77	32	1.05	34	1.50	36	2.05
40	30	0.72	31	0.83	32	1.12	35	1.61	37	2.19
45	31	0.75	31	0.87	33	1.19	35	1.71	37	2.32
50	31	0.80	32	0.92	34	1.25	36	1.80	38	2.45
55	32	0.84	32	0.96	34	1.31	36	1.89	38	2.57
60	32	0.88	33	1.01	34	1.37	37	1.97	38	2.68

#### STRAIGHT BORE NOZZLE (SBN-1)\*

(Stream Height: 1.8m)

BARS @ Nozzle	NOZZLE SIZE METRIC														
	1.59 mm (1/16")			1.70 mm (51 Drill)			1.98 mm (5/64")			2.38 mm (3/32")			2.78 mm (7/64")		
	Rad.	Flow (lps)	Flow (m <sup>3</sup> /h)	Rad.	Flow (lps)	Flow (m <sup>3</sup> /h)	Rad.	Flow (lps)	Flow (m <sup>3</sup> /h)	Rad.	Flow (lps)	Flow (m <sup>3</sup> /h)	Rad.	Flow (lps)	Flow (m <sup>3</sup> /h)
1.4	-	-	-	8.8	0.04	0.13	9.3	0.05	0.18	10.1	0.07	0.26	10.4	0.10	0.35
1.5	-	-	-	8.9	0.04	0.14	9.3	0.05	0.19	10.1	0.07	0.27	10.5	0.10	0.37
2.0	9.0	0.04	0.14	9.1	0.04	0.16	9.6	0.06	0.22	10.3	0.09	0.31	10.8	0.12	0.42
2.5	9.2	0.04	0.15	9.3	0.05	0.18	9.8	0.07	0.24	10.6	0.10	0.35	11.0	0.13	0.47
3.0	9.4	0.05	0.17	9.6	0.05	0.19	10.1	0.07	0.27	10.8	0.11	0.38	11.4	0.14	0.52
3.5	9.6	0.05	0.18	9.8	0.06	0.21	10.4	0.08	0.29	11.0	0.11	0.41	11.6	0.16	0.56
4.0	9.8	0.05	0.20	10.0	0.06	0.22	10.5	0.08	0.31	11.2	0.12	0.44	11.7	0.17	0.60
4.1	9.9	0.06	0.20	10.1	0.06	0.23	10.5	0.09	0.31	11.3	0.12	0.45	11.7	0.17	0.61

\* Available without Nozzle or Assembled with 5/64" (05) Straight Bore Nozzle.

All other Nozzles must be purchased separately.

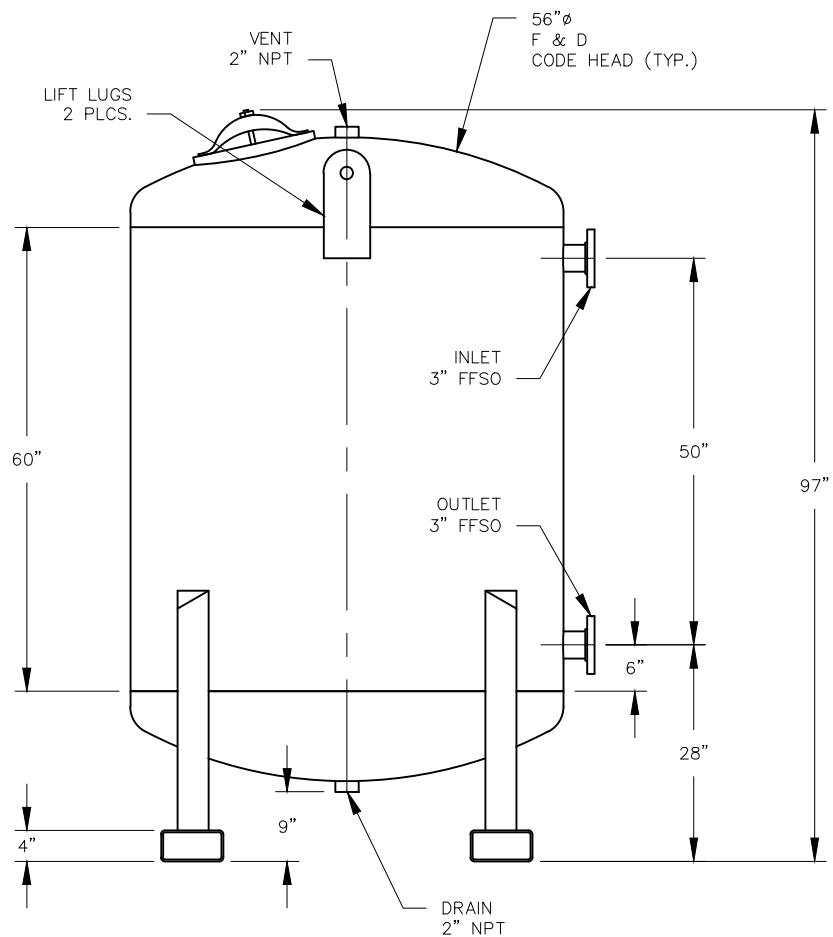
See Chart below.

#### Part Numbers and Ordering Information

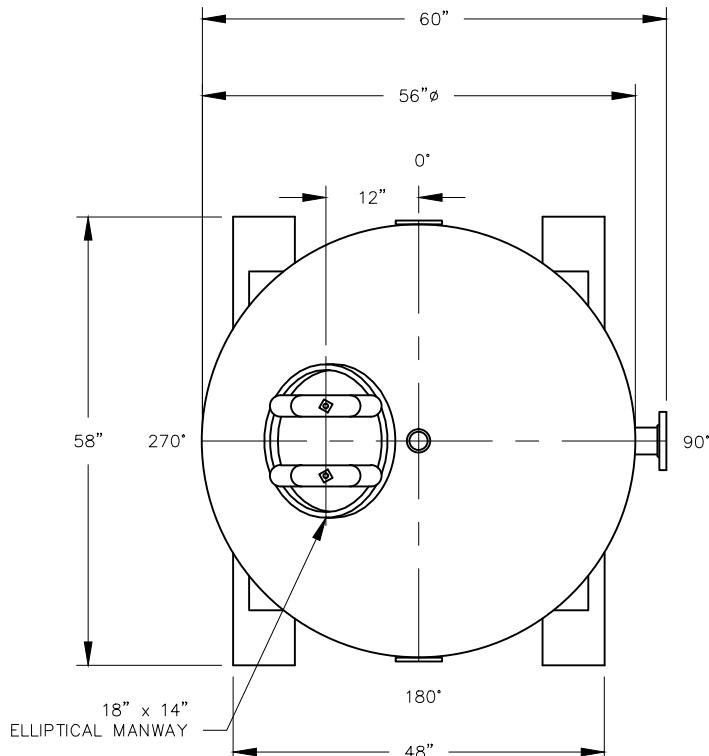
Sprinkler Only	
Sprinkler without Nozzle	<b>A01619</b>
Assembled Sprinkler/Nozzle Factory Combination	
Sprinkler with Nozzle <b>SBN-1</b> 5/64"	<b>A0162005</b>

			XX = Nozzle Size						
			U.S. Standard		1/16"	51 DRILL	5/64"	3/32"	7/64"
			Metric	1.59 mm	1.70mm	1.98 mm	2.38 mm	2.78 mm	
Brass Straight Bore Nozzle	SBN-1	<b>105780-XX</b>		04	51	<b>05</b>	06	07	

Bold nozzle size numbers denote the most common nozzle choices.



ELEVATION



PLAN

## VESSEL STANDARDS

VESSEL MATERIALS : 516-70 CARBON STEEL

LINING : EPOXY

EXTERIOR PAINT : EPOXY BASE W/ URETHANE TOP COAT

HEAD THICKNESS : 1/4" ASME CODE F & D

SHELL THICKNESS : 1/4"

INTERNAL : PVC PIPE

VESSEL ACCESS : 18" X 14" ELLIPTICAL MANWAY

MAX. MEDIA FILL : 94 FT.<sup>3</sup>

TOTAL VOLUME OF VESSEL : 105 FT.<sup>3</sup>

EMPTY WT. : 1550 LBS

MAX. OPERATING PRESSURE : 75 PSIG

MAX. OPERATING TEMP. : 130°F

3	ADD LIFT LUGS	JB	3/15/11
2	FLANGED NOZZLES & INCREASE DIA. TO 58"	JB	4/24/09
1	REMOVE HANDHOLE	JB	8/21/07
NO.	REVISION	BY	DATE
PROJECT			LT-60
PROJ. NO.	SALES	<b>Norit</b> leading in purification	
P.O. NO.		<b>Activated Carbon</b>	
DRAWN BY	JB	Systems & Services Marshall, Texas 1-800-641-9245	
DESIGN BY	BB		
CHKD. BY	BB		
DATE	11/18/05	DWG. NO.	LT-60-1001
SCALE	NTS	REV.	3

PLAN &  
ELEVATION

## DATASHEET

No. 2215  
Aug 2010**NORIT® GAC 300**

## GRANULAR ACTIVATED CARBON

**NORIT GAC 300** is a granular activated carbon produced by steam activation of select grades of coal. As a result of a unique patented activation process and stringent quality control, **NORIT GAC 300** offers excellent adsorption properties and is recommended for removal of impurities from water and industrial process applications. **NORIT GAC 300** will meet all AWWA B100 and B604 standards for potable water use. **NORIT GAC 300** meets NSF/ANSI Standard 61.

Product Specifications

Iodine number, mg/g	900 min.
Abrasion number (AWWA)	75 min.
Moisture, % as packed	2 max.
Mesh size (U.S. Sieve Series)	
Greater than 8 mesh (2.36 mm), %	8 max.
Less than 30 mesh (0.60 mm), %	4 max.

Typical Properties\*

Apparent density, vibrating feed, g/mL lb/ft <sup>3</sup>	0.52 32.5
Bed density, backwashed and drained, lb/ft <sup>3</sup>	28
Effective size, mm	1.0
Uniformity coefficient	1.7
Food Chemical Codex	Passes

\*For general information only, not to be used as purchase specifications.

Packaging/Transportation

Standard package is woven polypropylene bulk bags, 1,000 lb net.

Activated carbon (NOT REGULATED)

Exempt from DOT, IATA, and IMDG regulations

Import/Export classification: 3802.10.0000 (HS Tariff Classification)

Domestic Freight Classification: NMFC 040560

CAS # 7440-44-0

Material Handling

Wet activated carbon depletes oxygen from air and, therefore, dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the vessel's oxygen content should be determined and work procedures for potentially low oxygen areas should be followed. Appropriate protective equipment should be worn. Avoid inhalation of excessive carbon dust. No problems are known to be associated in handling this material. Please see the product Material Safety Data Sheet for details. Long-term inhalation of high dust concentrations can lead to respiratory impairment. Use forced ventilation or a dust mask when necessary for protection against airborne dust exposure (see Code of Federal Regulations - Title 29, Subpart Z, par. 1910.1000, Table Z-3).

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# DATASHEET

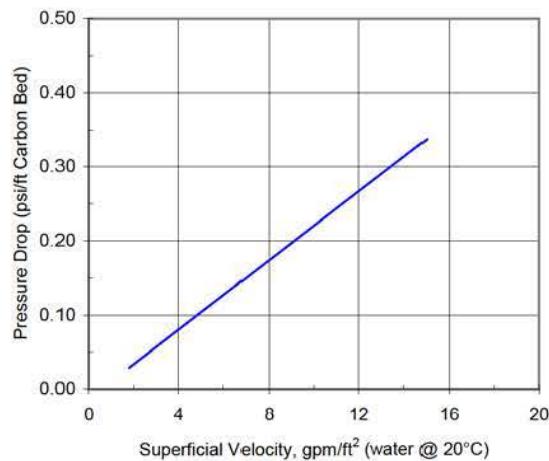
No. 2215  
Aug 2010

## NORIT® GAC 300

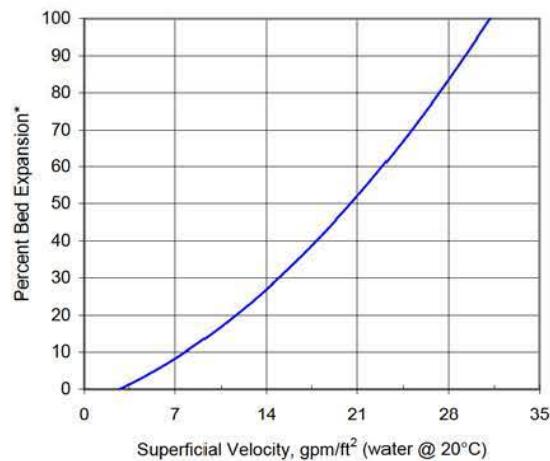
(continued)

### Engineering Data

Pressure Drop Curve  
for NORIT GAC 300



Bed Expansion Curve  
for NORIT GAC 300



\*Expansion is expressed as percent of the backwashed and settled bed depth.

Note: Any specification given was valid at time of issuance of the publication. However, we maintain a policy of continuous development and reserve the right to amend any specification without notice.



# **Activated Carbon**



## DATASHEET

No. 2216  
Aug 2010

## NORIT® GAC 400

#### **GRANULAR ACTIVATED CARBON**

**NORIT GAC 400** is a granular activated carbon produced by steam activation of select grades of coal. As a result of a unique patented activation process and stringent quality control, **NORIT GAC 400** offers excellent adsorption properties and is recommended for removal of impurities from water and industrial process applications. **NORIT GAC 400** meets all AWWA B100 and B604 standards for potable water use. **NORIT GAC 400** meets NSF/ANSI Standard 61.

## Product Specifications

Iodine number, mg/g	1000 min.
Abrasion number (AWWA)	75 min.
Moisture, % as packed	2 max.
Mesh size (U.S. Sieve Series)	
Greater than 12 mesh (1.70 mm), %	5 max.
Less than 40 mesh (0.42 mm), %	4 max.

### Typical Properties\*

Apparent density, vibrating feed, g/mL lb/ft <sup>3</sup>	0.49 31
Bed density, backwashed and drained, lb/ft <sup>3</sup>	27
Effective size, mm	0.7
Uniformity coefficient	1.6
Food Chemical Codex	Passes

\*For general information only, not to be used as purchase specifications.

#### Packaging/Transportation

**Standard package** is woven polypropylene bulk bags with a net weight of 1,000 lb.

Activated carbon (NOT REGULATED)

Exempt from DOT, IATA, and IMDG regulations

Import/Export classification: 3802 10 0000 (HS Tariff Classification)

Domestic Freight Classification: NMFC 040560

Domestic Freight  
CAS # 7440-44-0

## Material Handling

Wet activated carbon depletes oxygen from air and, therefore, dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the vessel's oxygen content should be determined and work procedures for potentially low oxygen areas should be followed. Appropriate protective equipment should be worn. Avoid inhalation of excessive carbon dust. No problems are known to be associated in handling this material. Please see the product Material Safety Data Sheet for details. Long-term inhalation of high dust concentrations can lead to respiratory impairment. Use forced ventilation or a dust mask when necessary for protection against airborne dust exposure (see Code of Federal Regulations - Title 29, Subpart Z, par. 1910.1000, Table Z-3).

(continued on reverse side)

# DATASHEET

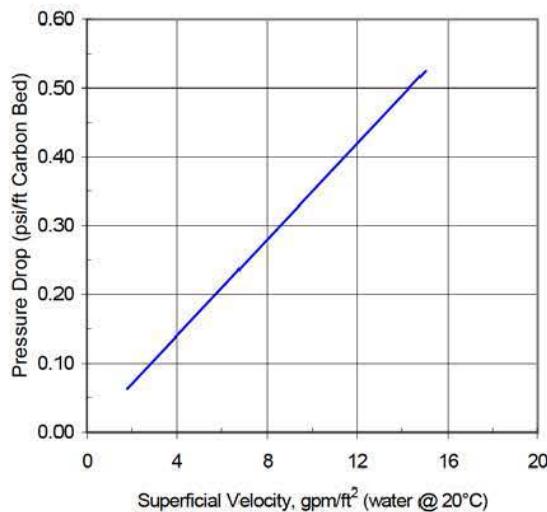
No. 2216  
Aug 2010

## NORIT® GAC 400

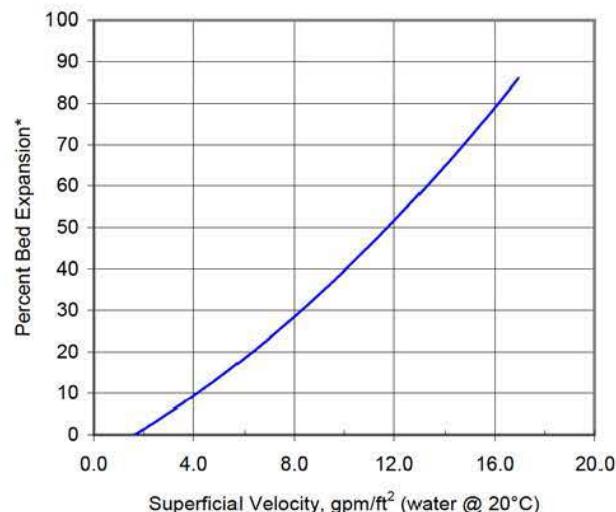
(continued)

### Engineering Data

Pressure Drop Curve  
for NORIT GAC 400



Bed Expansion Curve  
for NORIT GAC 400



\*Expansion is expressed as percent of  
the backwashed and settled bed depth.

Note: Any specification given was valid at time of issuance of the publication. However, we maintain a policy of continuous development and reserve the right to amend any specification without notice.